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EARLY USE OF THE ROENTGEN RAY IN THE STUDY OF THE ALIMENTARY CANAL*

W. B. CANNON, M.D.
BOSTON

My reasons for preparing the present paper were various. First of all, I must confess to never having carefully looked up the historical sequence of early literature on the technic of applying the Roentgen rays to the alimentary canal, and I wished to do that. Second, an account of the first Roentgen-ray experiments on the digestive tract performed in the Harvard Physiological Laboratory has never been written, and that, I thought, might be interesting to members of the American Roentgen Ray Society. Finally, my activities during the past few years have not been concerned with use of the Roentgen rays, and when asked to speak here, I had nothing else to bring than the story of these early observations.

When in December, 1895, Roentgen[1] announced the discovery of a "new kind of rays," he pointed out that the salts of metals, either solid or in solution, behaved generally as the metals themselves, in obstructing the passage of his new rays.[1] Within two months, in February, 1896, the possibility of rendering hollow organs visible by injecting them with salts was demonstrated by Dutto,[2] who filled arteries with plaster of Paris and then photographed them. A month later, in March, 1896, Becher[3] published a roentgenogram of a dead guinea-pig in which he had distended the stomach and a loop of the small intestine with lead subacetate; the stomach shadow was quite indistinct, but the intestinal loop showed clearly. In April, 1896, Wegele[4] suggested that it would be possible to introduce a spiral electrode into the human stomach and by roentgenographing it to determine the limits of the greater curvature; it was not until a year later, however, that the suggestion was carried out by Lindemann,[5] who introduced a soft stomach-tube enclosing a fine copper wire and obtained a roentgenogram of the wire as it lay along the lower gastric border. Meanwhile Hemmeter,[6] having noted Becher's roentgenogram of the dead guinea-pig with stomach and intestine made visible by injected lead salts, and having recently devised an intragastric bag, proposed that the bag be pushed into the stomach and filled with a solution of lead acetate to render the shape of the stomach capable of being roentgenographed. I am not aware that Hemmeter's proposal was ever put to practical test.

In the fall of 1896, when I was a first-year student in the Harvard Medical School, and Mr. Albert Moser, a Cambridge acquaintance, was a second-year student, we went to Prof. *H. P.* Bowditch and asked for an opportunity to undertake a physiologic investigation. He suggested that we test by means of the newly discovered Roentgen rays the Kronecker-Meltzer view of deglutition—namely, that substances when swallowed are shot down the esophagus by pressure developed in the mouth, and are not pushed down by a peristaltic wave. A small static machine and some simple tubes were secured, and we set to work. Our first observation was made on Dec. 9, 1896, when we watched globular pearl buttons pass down the esophagus of a dog. On December 14, we repeated the observations on a rooster whose neck was *kept straight by fastening the head and body in fixed* positions.

That substances vary in their opacity to the Roentgen ray in accordance with their molecular weight was then common knowledge. Barium and bismuth were selected from among the heavy metals, and barium sulphate and bismuth subnitrate were chosen as salts which, because practically insoluble, would serve our purposes. Since bismuth subnitrate was a pharmacopeial preparation we determined first to use that.[7] On Dec. 16, 1896, we gave a frog a gelatin capsule filled with this bismuth salt, and after seeing clearly the shadow of the substance in the frog's stomach, we repeated, the next day, December 17, the use of the salt in a capsule to show deglutition in the dog. When the swallowed capsules were dissolved, the bismuth subnitrate was liberated; and in my notes I find the remark that thus a dark roundish area was produced as a stomach shadow. Then we procured a goose and made for it a box so arranged that the long neck reached up through the cover. A high cardboard collar was then attached to the top of the box in such a way that it could be closed in front when surrounding the goose's neck. Thus the goose, with the appearance of using the most stylish neckwear, presented to the fluorescent screen a very satisfactory extent of esophagus. At the meeting of the American Physiological Society in Boston, Dec. 29, 1896, the phenomena of deglutition as exhibited by the goose when swallowing capsules containing bismuth subnitrate was informally demonstrated to the members by means of the Roentgen rays. This was, I think, the first public demonstration of movements of the alimentary tract by use of the new method.

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* Read at the fourteenth annual meeting of the American Roentgen Ray Society, Boston, Oct. 2, 1913.

[1] Roentgen: Translation of the original paper in Science, 1896, N. S. iii, 227.

[2] Dutto: Rendiconti, Reale Accademia dei Lincei, 1896, v, 129.

[3] Becher: Deutsch. med. Wchnschr., 1896, xxii, 202.

[4] Wegele: Deutsch. med. Wchnschr., 1896, xxii, 287.

[5] Lindemann: Deutsch. med. Wchnschr., 1897, xxiii, 266.

[6] Hemmeter: Boston Med. and Surg. Jour., 1896, cxxxiv, 609.

[7] Later I showed that barium sulphate mixed with the food was quite as satisfactory as bismuth subnitrate. Cannon, W. B.: Am. Jour Physiol., 1904, xii, 388.

It was not until Jan. 9, 1897, that we employed bismuth subnitrate mixed with the food (in this case a bread mush) to render the swallowed mass visible. And in order to test the rate at which substances with different consistencies move along the esophagus, we added more or less water to the mush, thus varying its physical state from a rather stiff mass to a very soft, nearly fluid mixture. Various observations of this nature were made on the goose in January, February and March, 1897. On April 3, 1897, we began using the same mush-bismuth bolus, and also meat with bismuth subnitrate adherent, in a study of swallowing in the cat, and as the mixture of bismuth subnitrate and food accumulated in the stomach, that organ was outlined by a dark shadow. On April 3, and in observations on several days thereafter, the gastric contents became visible as the cats swallowed more and more of the mixture, but no movements of the wall were seen. Finally, on April 23, 1897, a cat was fed bread soaked in warm water, and mixed with bismuth subnitrate; about an hour and a half later peristaltic waves were clearly seen passing over the organ. Following is a transcript of my notes taken at the time:

> "A constriction seemed to start at *A* (*A* referred to a drawing and indicated the middle of the stomach), making a clear line there and forcing a black round mass into the region of *B* (the pyloric region). The constriction passed downward from *A* to *C* (the pylorus), but as the pylorus did not give way the contents of the stomach at *B* (the pyloric region) were forced back through the constricted ring. . . . As soon as the constriction had passed from *A* to *C*, it began again at *A* and the food was thus squirted through the narrow orifice caused by the constriction. This process continued a number of times, the food in region *D* (the cardiac region) apparently not at all involved in the movement." Forty minutes later the gastric movements were seen going on in the same manner.

The foregoing description records the first observation of peristaltic waves passing over the stomach contents, as seen by the Roentgen rays when the ingested food was mixed with a bismuth salt. Later observations refined the description—thus it was soon found that several waves are present at the same time—but the main facts, that the waves start at about the middle of the stomach, and that, because the pylorus does not open at the approach of every wave, these moving constrictions churn the food in the pyloric end—these facts were noted with this new method at first glance.

At a meeting of the American Physiological Society in Washington, May 4, 5 and 6, 1897, a preliminary report of these observations was presented by Professor Bowditch, and the summary of the report was published a month later.[8] A part of the summary was as follows:

> "For this purpose (studying the esophageal and gastric movements by means of Roentgen-ray shadows) moist bread, meat, mush or viscid fluids were mixed with bismuth subnitrate. Food thus prepared is visible during the process of deglutition, and, if given in sufficient quantities, serves to outline the stomach and to render its peristaltic movements visible." Then followed an account of the results which had been obtained in observing deglutition in different animals, and also gastric peristalsis.

This was not the first published account of the use of bismuth subnitrate to make visible the alimentary tract. About two months before (April 20, 1897) Rumpel[9] published the report of rendering a pathologically dilated esophagus visible by pouring into it 300 c.c. of a 5 per cent. suspension of bismuth subnitrate. The account of work done in the Harvard laboratory which was published June 11, 1897, was, however, so far as I have been able to learn, the first record of the use of a heavy salt mixed with the food—the method now employed—to render visible by means of the Roentgen rays the movements of the alimentary tract and the effects of these movements on the contents.

At the meeting of the Société de Biologie in Paris, June 12, 1897, about five weeks after the meeting of the American Physiological Society in Washington, Roux and Balthazard[10] reported observations on gastric peristalsis in the frog, studied by means of the Roentgen rays. They also used food mixed with bismuth subnitrate. These observations were followed by others on the stomach movements of the dog and of man (July 24, 1897).[10] Roux and Balthazard[11] gave to their human subject 15 or 20 gm. of bismuth subnitrate suspended in 100 c.c. of water. They were the first investigators to use the method to examine peristalsis of the human stomach, but they succeeded in seeing only the lower part of the greater curvature.

The work on cats was continued in Harvard laboratory during the summer and fall of 1897. The results of this labor were reported at the meeting of the American Physiological Society, Dec. 28, 1897, and published in the *Proceedings*, April 1, 1898.[12] The completed work on the movements of the stomach appeared in May, 1898.[13] Later accounts of the movements of the small and large intestines and of the rate of passage of different foodstuffs through the alimentary canal, all studied by the same method, were published from the Harvard laboratory,[14] and these papers, together with the paper on deglutition, finished the non-experimental, purely observational studies.

In the work on deglutition Mr. Moser and I, in the fall of 1897, made observations on a girl aged 7 and saw clearly capsules containing bismuth subnitrate, boluses of bread and milk mush mixed with the salt, and also a suspension of the salt in water, passing down the esophagus.[15]

In 1898 and in 1899 Dr. Francis H. Williams and I made some studies on the changes in shape of the human stomach as it empties. A boy aged 10 and his sister aged 7 were the subjects of our examinations. The boy was fed a pint of bread and milk to which 30 gm. of bismuth subnitrate had been added; his sister received a smaller amount. Tracings were made on transparent paper laid over the fluorescent surface. These tracings show clearly the vertical position of the stomach now so well known, and a gradual shortening of the organ as it discharges its contents. These records were not published at once, but appeared in 1903.[16]

A year after this publication by Dr. Williams, Rieder[17] reported his thorough study of the alimentary canal in man. The method used by Rieder was that which had been used many times before. Rieder himself definitely stated in his more extended paper in 1905 that his use of bismuth subnitrate mixed with the food, as a means of rendering opaque to the Roentgen rays the contents of the alimentary canal, was not new, and he presented a review of previous work in which this method had been employed.

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[8] Science, June 11, 1897, p. 901.

[9] Rumpel: München. med. Wchnschr., 1897, xliv, 420.

[10] Roux and Balthazard: Compt. rend. Soc. de biol., June 18, 1897.

[11] Roux and Balthazard: Compt. rend. Soc. de biol., 1897, xvii, 567, 704, 785; Arch. de physiol., 1898, xxx, 85.

[12] Am. Jour. Physiol., 1898 i, p. xiii.

[13] Am. Jour. Physiol., 1898, i, 359.

[14] Am. Jour. Physiol., 1902, vi, 251; 1904, xii, 387.

[15] Am. Jour. Physiol., 1898, i, pp. xii and 435.

[16] Williams, Francis H.: Roentgen Rays in Medicine and Surgery, New York, the Macmillan Company, 1903, p. 365.

[17] Rieder: Fortschr. a. d. Geb. d. Röntgenstrahlen, 1905, viii, 41.

In spite of Rieder's disavowal of the introduction of any new principle into methods of gastro-intestinal examination, it is not uncommon nowadays to find in clinical literature, especially in Germany, the use of a heavy salt mixed with the food to make Roentgen-ray shadows, referred to as "Rieder's method."[18] The assertion made by those who credit Rieder with the method is that he was first to demonstrate that giving large amounts of bismuth is harmless for the human organism (Albers-Schönberg[18] and Krause and Schilling[18]). It is doubtful if bismuth subnitrate is as assuredly harmless as was assumed in the early days.[19] Be that as it may, Groedel[18] has pointed out that Rieder's use of massive doses of bismuth subnitrate (from 40 to 50 gm.) rested in fact on the long experience of internists who, following Kussmaul, had given for gastric ulcer large doses—doses which would result in as much as 60 gm. being in the digestive tract at one time. This tendency to ascribe to Rieder the shadow method of studying the alimentary canal is not, however, confined to Germany. A recent article[20] in this country on Roentgen technic begins thus:

> The fundamental principle of Roentgen-ray examinations of the stomach and intestine is the visualization of their outline by filling them with substances opaque to the ray, a principle which we owe to Rieder of Munich who, in 1904, first used bismuth subnitrate for the purpose.

As already stated, Rieder himself clearly disclaims any such credit as is thus given to him.

The evolution of the Roentgen-ray shadow method of examining the digestive tract has gone forward with such great strides in these later years—with the manufacture of powerful electric generators and durable tubes and with the application of the method to all manner of practical problems of diagnosis, such as constipation, and obstruction, and tumors, and ptosis and what not else—that the small beginnings which I have recounted here seem trivial enough. This historical review which I have tried to present may, however, serve to show that the use of Roentgen-ray shadows of gastro-intestinal contents, to determine normal and pathologic motions of the alimentary tract, has been a gradual development. The interdependence of ideas in any such development is so complex that it is quite possible that the method now employed originated in fact in the statement contained in Roentgen's first announcement, that the salts of heavy metals are as opaque to the rays as the metals themselves. The injection of blood-vessels and intestinal loops with salts showed almost at once that any hollow organ could be made, in the presence of Roentgen rays, to manifest its contours. The mixing of heavy salts with the food to render gastro-intestinal movements visible was, so far as I have been able to learn, first used in the Laboratory of Physiology in the Harvard Medical School; but the method contained, to my mind, no principle which had not been utilized before. Under these circumstances there is little warrant for any man to claim for himself or for any other the credit of inventing the method now used everywhere in Roentgen examinations of the alimentary canal.

240 Longwood Avenue.

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[18] Groedel: München. med. Wchnschr., 1907, liv, 1068. Albers-Schönberg: Med. Klin., 1908, iv, 1713. Krause and Schilling: Fortschr. a. d. Geb. d. Röntgenstrahlen, 1913, xx, 465.

[19] Worden, Sailer, Pancoast and Davis: Univ. Penn. Med. Bull., 1906, xix, 131, 137.

[20] Carman, R. D.: The Technic of Roentgen-Ray Examination of the Gastro-Intestinal Tract, and the Interpretation of Screen and Plate Findings, The Journal A. M. A., Aug. 2, 1913, p. 321.

A STATISTICAL STUDY OF PROGNOSIS IN INSANITY

A. J. ROSANOFF, M.D.
KINGS PARK, N. Y.

The introduction of Kraepelin's classification has been of benefit, but not unmixed with drawbacks—none the less real for being unnecessary—among which not the least regrettable has been the growth of a tendency to neglect the consideration of prognosis, as based on the special data of cases in hand, seemingly owing to an assumption that the prognosis is fully implied in the diagnosis. In other words, the improvement of the criteria in general prognosis has been somewhat at the expense of individual prognosis.

To this tendency there would be no objection if the criteria as applied to general prognosis were trustworthy in every case; but this, in fact, is not true and he who is satisfied with saying, "This is a case of dementia praecox, it will, therefore, end in deterioration," or "This is a case of manic-depressive insanity, it will, therefore, end in recovery, but there are likely to be recurrences," is making a forecast that is neither reliable nor so full and detailed as desirable and, under some conditions, possible; for, on the one hand, there is possibility of error in his prediction—even assuming correctness of diagnosis—and, on the other hand, he has yet failed to offer a judgment on many important points. How rapid, how marked and disabling a deterioration may be expected in the case of dementia praecox? Is the course to be steadily progressive or, perhaps, interrupted by remissions? In the case of manic-depressive insanity, how soon is the recovery to be expected and when the recurrences? In either case, to what extent, if any, may the future course be influenced by environmental conditions?

Perhaps in the process of assimilating Kraepelin's teaching it has been but natural for us to endeavor first to grasp its more fundamental points, to seek a view of its general outline; but it would seem that we are now past the stage of this preliminary work and are far enough advanced to begin adding the "grain of salt" which must be taken with every generalization.

That the matter of prognosis deserves more intensive special study than it has hitherto received needs hardly to be stated, for no issue urges itself more prominently on the clinical psychiatrist in his daily work; but there are two items of advantage that may be gained from the systematic practice of prognosis which are perhaps not generally realized. The first of these consists in a corrective control that would become available for clinical work and judgments; under ordinary conditions, attention being almost wholly given to diagnosis, an unexpected outcome in a given case elicits but the explanation that "exceptions are not uncommon." A more specific explanation, derived from the facts in the case, would probably be sought if an individual prognosis had been rendered. The second item of advantage consists in the development of sound and crucial criticism of therapeutic procedures that would follow the prognosis. Any case in which improvement followed the use of hydrotherapy, psychanalysis, reeducation, or what not, would be of greater value were a thoroughly discussed prognosis previously rendered than when, as is usual, without hesitation or compunction, the improvement is directly attributed to the treatment.

Hitherto individual prognosis has been an art rather than a science, and one, moreover, practiced at times

TABLE 1.—OUTCOME, AS FAR AS KNOWN ON SEPT. 30, 1913, OF ALL FIRST ADMISSIONS FOR THE YEAR ENDING SEPT 30, 1908

Clinical Groups	No. of Cases			Deported		Repatriated		Died		Discharged		At Hospital	
	Male	Female	Total	No	Per Cent.	No	Per Cent.	No	Per Cent.	No.	Per Cent.	No	Per Cent.
Senile psychoses	18	27	45	—	—	—	—	34	75.6	1	2.2	10	22.2
General paresis	69	8	77	—	—	1	1.3	61	79.2	10	13.0	5	6.5
Cerebral arteriosclerosis	7	5	12	—	—	—	—	8	66.6	2	16.7	2	16.7
Alcoholic psychoses	28	1	29	—	—	1	3.5	4	13.8	19	65.5	5	17.2
Other toxic psychoses	—	1	1	—	—	—	—	—	—	1	100.0	—	—
Infective exhaustive psychoses	4	1	5	—	—	—	—	2	40.0	3	60.0	—	—
Depressive hallucinosis	4	1	5	—	—	—	—	—	—	5	100.0	—	—
Involution melancholia	6	2	8	—	—	—	—	1	12.5	4	50.0	3	37.5
Dementia praecox	92	77	169	5	2.9	3	1.8	23	13.6	39	23.1	99	58.6
Allied to dementia praecox	34	19	53	—	—	1	1.9	4	7.5	31	58.5	17	32.1
Paranoiac conditions*	10	41	51	—	—	3	5.9	3	5.9	10	19.6	35	68.6
[illegible]	14	36	50	1	2.0	1	2.0	2	4.0	44	88.0	2	4.0
[illegible] psychoses	27	36	63	1	1.6	3	4.8	4	6.3	44	69.8	11	17.4
[illegible]	7	12	19	—	—	1	5.3	4	21.0	5	26.3	9	47.4
Psychoneuroses	—	4	4	—	—	—	—	—	—	4	100.0	—	—
Constitutional inferiorities	1	1	2	—	—	—	—	—	—	2	100.0	—	—
Imbecility with insanity	5	5	10	—	—	—	—	1	10.0	5	50.0	4	40.0
Unclassified	4	1	5	1	20.0	—	—	2	40.0	2	40.0	—	—
Not insane	4	—	4	—	—	—	—	—	—	4	100.0	—	—
All groups	334	278	612	8	1.3	14	2.3	153	25.0	234	38.2	203	33.2

* The term preferred by the author is "paranoic conditions," which is the official term employed by the New York State Hospital Commission to designate a group of delusional conditions without marked tendency toward mental deterioration The expression 'paranoiac conditions' is here used to preserve uniformity in the style of The Journal

TABLE 2.—AVERAGE LENGTH OF HOSPITAL RESIDENCE OF PATIENTS DEPORTED, REPATRIATED, DECEASED OR DISCHARGED INTO THE CUSTODY OF SELF, RELATIVES OR FRIENDS

Clinical Groups	Deported			Repatriated			Died			Discharged		
	Years	Months	Days	Years	Months	Days	Years	Months	Days	Years	Months	Days
Senile psychoses	—	—	—	—	—	—	1	0	22	3	4	24
General paresis	—	—	—	0	0	21	0	8	28	0	3	2
Cerebral arteriosclerosis	—	—	—	—	—	—	1	6	15	3	3	1
Alcoholic psychoses	—	—	—	1	9	19	2	5	25	0	7	11
Other toxic psychoses	—	—	—	—	—	—	—	—	—	0	8	18
Infective exhaustive psychoses	—	—	—	—	—	—	0	0	20	0	2	6
Depressive hallucinosis	—	—	—	—	—	—	—	—	—	0	3	19
Involution melancholia	—	—	—	—	—	—	0	2	0	0	8	2
Dementia praecox	0	2	26	0	7	8	1	10	7	0	5	18
Allied to dementia praecox	—	—	—	1	5	1	[illegible]	8	1	0	9	20
Paranoiac conditions	—	—	—	2	7	18	2	4	10	0	7	27
Manic depressive psychoses	0	2	15	0	1	27	0	7	26	0	8	8
Allied to manic depressive psychoses	0	1	24	1	7	14	0	4	10	0	9	3
Epileptic psychoses	—	—	—	4	10	0	2	3	22	1	4	5
Psychoneuroses	—	—	—	—	—	—	—	—	—	0	5	2
Constitutional inferiorities	—	—	—	—	—	—	—	—	—	0	3	24
Imbecility with insanity	—	—	—	—	—	—	4	1	6	0	11	18
Unclassified	0	2	18	—	—	—	2	1	27	2	1	3
Not insane	—	—	—	—	—	—	—	—	—	0	1	15
All groups	0	3	1	1	7	16	1	1	22	0	8	2

TABLE 3.—CONDITION ON DISCHARGE OF ALL PATIENTS SENT OUT IN THE CUSTODY OF SELF, RELATIVES OR FRIENDS*

Clinical Groups	Total First Admissions	Recovered		Improved		Unimproved	
		No	Per Cent	No	Per Cent	No	Per Cent
Senile psychoses	45	—	—	—	—	1	2.2
General paresis	77	—	—	8	10.4	2	2.6
Cerebral arteriosclerosis	12	—	—	2	16.7	—	—
Alcoholic psychoses	29	14	48.3	5	17.2	—	—
Other toxic psychoses	1	1	100.0	—	—	—	—
Infective exhaustive psychoses	5	3	60.0	—	—	—	—
Depressive hallucinosis	5	5	100.0	—	—	—	—
Involution melancholia	8	3	37.5	1	12.5	—	—
Dementia praecox	169	—	—	32	18.9	7	4.1
Allied to dementia praecox	53	25	47.2	5	9.4	1	1.9
Paranoiac conditions	51	—	—	10	19.6	—	—
[illegible]s	50	40	80.0	3	6.0	1	2.0
[illegible] psychoses	63	34	54.0	8	12.7	2	5.9
[illegible]	19	2	10.5	3	16.1	—	—
Psychoneuroses	4	2	50.0	2	50.0	—	—
Constitutional inferiorities	2	—	—	2	100.0	—	—
Imbecility with insanity	10	1	10.0	4	40.0	—	—
Unclassified	5	—	—	—	—	2	40.0
All groups (including four not insane)	612	130	21.2	85	13.7	16	2.6

*Four patients on first admission were discharged as not insane quite independently of Kraepelin's contributions. It may be hoped, however, that careful records of data of experience will aid in building up also a science of prognosis, when its practice will be more accurate and more general. But for the present, if the procedure is to be in a natural way from the known to the unknown, it would seem wisest not to attempt a discussion of the rather meager data of individual prognosis—a discussion which would be perforce largely conjectural—but rather to work toward improving our methods of recording clinical experiences until a system of statistics is developed which will faithfully exhibit both the strength and the weakness of present-day general prognosis.

At the last annual meeting of the American Medico-Psychological Association a paper entitled "Statistical Studies of the Insane" was read by Dr. James V. May, the medical member of the New York State Hospital Commission. Among other criticisms of state hospital statistics the paper contains the following:

> The recovery-rate has been estimated as based on the number admitted for the year, the average daily population, the whole number treated, the number discharged and the rate per thousand or ten thousand of the admissions, etc. All these methods are, to say the least, unreliable if not absolutely misleading. The total number of recoveries includes those occurring in the whole population under treatment, representing (in large part) the accumulation of years in the form of various psychoses from which no recovery can possibly be expected, such as *epileptics, seniles, imbeciles and* the terminal stages at various other conditions. The recoveries from the total population have little if any real relation to the number admitted during the year. It would be highly desirable if from a given thousand or ten thousand consecutive admissions accurate and definite reports could be obtained showing how many are discharged improved or recovered, how many die, and what percentage becomes permanently resident in our chronic wards. Only such statistics can accurately determine the real recovery-rate or give us any definite idea as to the ultimate disposition of the patients admitted.

Following the suggestion contained in the preceding quotation an investigation has been made of the outcome, as far as known at present (Sept. 30, 1913), of all cases of first admission to the Kings Park State Hospital for the year ending Sept. 30, 1908. The data resulting from this investigation are presented in statistical form in Tables 1 to 5.

TABLE 4.—SUBSEQUENT COURSE OF PATIENTS DISCHARGED INTO THE CUSTODY OF SELF, RELATIVES OR FRIENDS*

Clinical Groups	Total Number Discharged	Readmitted and Now in Hospital		Readmitted and Eventually Discharged		Not Known to Have Been Readmitted	
		No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
Senile psychoses	1	—	—	—	—	1	100.0
General paresis	10	—	—	—	—	10	100 0
Cerebral arteriosclerosis	2	2	100.0	—	—	—	—
Alcoholic psychoses	19	2	10.5	2	10.5	15	79 0
Other toxic psychoses	1	—	—	—	—	1	100.0
Infective-exhaustive psychoses	3	—	—	—	—	3	100.0
Depressive hallucinosis	5	—	—	2	40.0	3	60.0
Involution melancholia	4	—	—	1	25.0	3	75.0
Dementia praecox	39	10	25.6	1	2.6	28	71.8
Allied to manic-depressive psychoses†	31	2	6.5	3	9.7	26	83.8
Paranoiac conditions	10	2	20.0	1	10.0	7	70.0
Manic-depressive psychoses	44	1	2.3	7	15.9	36	81.8
Allied to manic-depressive psychoses	44	4	9.1	2	4.5	37	84.1
Epileptic psychoses	5	—	—	—	—	5	100.0
Psychoneuroses	4	—	—	—	—	4	100.0
Constitutional inferiorities	2	—	—	1	50.0	1	50.0
Imbecility with insanity	5	—	—	—	—	5	100.0
Unclassified	2	—	—	—	—	2	100.0
All groups (including four not insane)	235	22	9.4	20	8.5	191	81.7

* Four patients were discharged as not insane.
† One patient in this group died after readmission. Percentage of this group dying 2.3; of all groups 0.4.

TABLE 5.—PRINCIPAL CAUSES OF DEATH OF FIRST ADMISSIONS

Causes of death	Senile Psychoses	General Paresis	Cerebral Arteriosclerosis	Alcoholic Psychoses	Involution Melancholia	Dementia Praecox	Paranoiac Conditions	Manic-Depressive Psych.	Epileptic Psychoses	Imbecility with Insanity	Other Groups	All Groups
General paresis	—	59	—	—	—	—	—	—	—	—	—	59
Bronchopneumonia	15	—	4	—	—	2	—	1	—	—	2	24
Pulmonary tuberculosis	—	—	—	—	—	14	2	—	2	—	1	19
Acute enterocolitis	5	—	1	—	—	—	—	—	—	1	3	10
Lobar pneumonia	1	—	—	—	—	1	—	1	—	—	2	5
Chronic endocarditis	3	—	—	—	—	—	1	—	—	—	1	5
Chronic nephritis	4	—	—	—	—	—	—	—	—	—	1	5
Arteriosclerosis	3	—	1	—	—	—	—	—	—	—	—	4
Cerebral hemorrhage	1	—	2	1	—	—	—	—	—	—	—	4
Acute peritonitis	—	1	—	1	—	—	—	—	—	—	—	2
Acute cholecystitis	1	—	—	—	—	—	—	—	—	—	1	2
Intestinal obstruction	—	1	—	—	—	1	—	—	—	—	—	2
Septicemia	—	—	—	—	—	1	—	—	—	—	1	2
Chronic myocarditis	—	—	—	1	—	1	—	—	—	—	—	2
Status epilepticus	—	—	—	—	—	—	—	—	2	—	—	2
Inanition and exhaustion	—	—	—	—	1	1	—	—	—	—	—	2
Influenza	—	—	—	—	—	1	—	—	—	—	—	1
Purpura hemorrhagica	—	—	—	1	—	—	—	—	—	—	—	1
Suicide	—	—	—	—	—	1	—	—	—	—	—	1
Cancer of the breast	1	—	—	—	—	—	—	—	—	—	—	1

Some items in the tables require explanation.

Under the heading "Deported" are included patients returned to their native countries by federal authorities under the federal law pertaining to the exclusion of insane or defective aliens.

Under the heading "Repatriated" are included immigrants not deportable under the federal law but returned to their native countries or states at their own or their friends' request, for the most part through the agency of the state bureau of deportation. The further course of cases following deportation or repatriation is generally unknown.

Under the heading "Discharged" are included patients who have been discharged following escape from the hospital or into the custody of self, relatives or friends, but not patients who have been deported, repatriated or transferred to other institutions for the insane in this state.

Under the heading "At Hospital" are included patients who from the time of first admission have either continuously resided at this hospital, or in part at this hospital and in part at some other hospital in this state to which they may have been transferred.

If, following transfer to another hospital, a patient has been deported, repatriated, has died or has been discharged into the custody of self, relatives or friends, this has been so entered in the table, just as has been done in the event of such termination of treatment during residence at this hospital.

In Table 2 the average length of hospital residence includes residence both at this hospital and at other hospitals to which the patient may have been transferred, but in each case only the residence following first admission is taken into account.

In Table 4, under the heading "Not Known to Have Been Readmitted," some cases have perforce been entered for want of better information. Although the statistician of the State Hospital Commission has kindly rendered assistance in the collection of these data by going over the records kept at its office at Albany, there is no doubt that some instances of readmission to institutions in this state have been overlooked owing to the patients being recommitted under changed names or for other reasons. Naturally information concerning readmission to institutions in other states or countries is still more imperfect. It will be judged, then, that the percentages of readmissions during the period under consideration, as shown in the table, must be to some unknown but probably considerable extent understated.

In all of the tables the diagnoses given are not necessarily those originally made, but are those finally decided on, possibly following revision at any time in the course of observation or treatment or at the time of discharge or following death and post-mortem examination. In this connection attention is called particularly to the groups allied to dementia praecox and allied to manic-depressive insanity. In these groups are placed patients who present atypical features of any kind, among these being unexpected recovery or unexpected deterioration or chronicity. It need hardly be added that these groups ought to be considered not independently but in connection with the "straight" groups of dementia praecox and manic-depressive insanity.

SUMMARY

The main facts exhibited in the tables may be summarized as follows:

1. At the end of five years, one-fourth of all first admissions have died, a little over one-third have been discharged, and about one-third are still in the state institutions. These results are, however, very unequally distributed among the various clinical groups, as would indeed be expected.

2. Taking into consideration only the more important clincal groups, it will be seen that death is the typical termination for patients with senile psychoses, general paresis and cerebral arteriosclerosis; discharge into the custody of self, relatives or friends for alcoholic psychoses, psychoses allied to dementia praecox and manic-depressive and allied psychoses and continued residence at the hospital for dementia praecox and paranoiac conditions.

3. Aside from the patients that survive and remain as prolonged institution residents, the termination of treatment in the average case has been before the expiration of the first year of hospital residence, namely, at the end of ten months, eleven days.

4. Nearly one-half of the patients in the group allied to dementia praecox have been discharged as recovered, many of those being placed in that group instead of the "straight" group of dementia praecox for no other reason than that of their eventual recovery; moreover, a percentage of these patients higher than the average find their place at the end of five years under the heading "Not Known to Have Been Readmitted" (Table 4).

5. Four per cent. of the cases in the manic-depressive group and over 17 per cent. of those in the group allied to manic-depressive psychoses are still in the institutions at the end of five years.

6. Of all the patients discharged into the custody of self, relatives or friends nearly 20 per cent., and possibly more, have been readmitted within five years.

7. The distribution of the causes of death is abnormal in comparison with general mortality statistics; of the 153 deaths no less than 112, or 73.2 per cent., are due to but four principal causes—general paresis, bronchopneumonia, pulmonary tuberculosis and acute enterocolitis.

THE INTRANASAL TREATMENT OF DYSMENORRHEA

WITH A REPORT OF NINETY-THREE CASES [*]

EMIL MAYER, M.D.
Attending Laryngologist, Mount Sinai Hospital; Chief of Clinic, Ear and Throat Department, Mount Sinai Hospital Dispensary
NEW YORK

In 1897 Fliess[1] first called attention to the hitherto unknown and remarkable results obtained by treatment of the nose for the relief of dysmenorrhea and labor pains. In the same brochure he presented a series of facts tending to prove the existence of a *periodicity* in human life stated to be twenty-eight days in the female and twenty-three days in the male.

The relationship between the nose and uterine organs was limited, according to Fliess, to certain points in the nasal mucosa which he termed the "genital spots." These are the tuberculum septi and the anterior portion of the inferior turbinate in either side of the nose. At menstruation these swell, bleed easily, are sensitive to the touch of a probe and are slightly cyanotic. During labor Fliess noted a swelling of the erectile tissue of the nose at each uterine contraction.

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[*] Owing to lack of space this article is abbreviated in The Journal by the omission of ninety-three case-reports. The complete article appears in the author's reprints, a copy of which will be sent by him on request.

[*] Read before the meeting of the American Academy of Ophthalmology and Otolaryngology at Chattanooga, Tenn., Oct. 26, 1913.

[1] Fliess: The Relation of the Nose and Female Genitalia, Leipsic, Vienna 1897.

His first experiments were with cocain. During an attack of dysmenorrhea applications of a 20 per cent. solution of cocain were applied to the genital spots; the pains in the back and abdomen ceased after from five to eight minutes and did not return until the effect of the cocain wore off. If only turbinates were touched the headache ceased but not the abdominal pain. If only one side was treated, the pain on the opposite side of the abdomen was relieved. I[2] have since obtained similar results with epinephrin, and Fliess and Kuttner[3] have obtained similar results.

Fliess then endeavored to secure permanent effects and applications of trichloracetic acid, the galvanocautery and bipolar electricity were made to the genital spots with entire success as the succeeding menstruations were painless. His best and most lasting results were obtained by the abolition of the sensitive spots by means of bipolar electrolysins of from 5 to 8 milliamperes.

Fliess naturally presented his own theories as to the explanation of this remarkable relationship, and these have been combated by many subsequent writers, the most recent of whom, Seifert[4] concludes as follows:

> 1. There are many indications pointing to a direct relation between the nose and the sexual organs; the nerve path is unknown.
>
> 2. General circulatory and mechanical conditions have a greater or lesser modifying influence on the nose as a result of sexual conditions and functions.
>
> 3. Many pathologic conditions of menstruation, etc., coexist with a genuine nasal reflex neurosis or nasal hypertrophy with its results.
>
> 4. Uterine influence through nasal conditions may be largely explained by suggestion, by cocain euphoria, greater in certain individuals than in others, by relief of a nasal reflex neurosis, and through the restoration of the general health as a result of restored nasal respiration and relief of nasal congestion.

It must be added that Seifert's experience with the treatment of dysmenorrhea is so slight and inconsequential that his conclusions and theories lack the weight that a greater experience would give. The subject has aroused intense interest on the part of gynecologists as well as rhinologists, as may be noted by the fact that the article referred to by Seifert[4] contains references to 296 articles written on the relationship between the nose and the sexual organs.

Although the nasal treatment for dysmenorrhea had been followed by me in some desultory cases with more or less success, it was not until the fall of 1910, three years ago, that a careful and systematic study of each case so treated was begun. In conjunction with Dr. Joseph Brettauer, of this city, and other noted gynecologists, the absence of uterine disease as a causal factor was ascertained. In some instances all the well-known methods of surgical intervention, dilatation, curettage, etc., had been unsuccessful. Concise histories were taken as to the conditions existing whether premenstrual, during menstruation or postmenstrual; by far the greater number of patients having premenstrual headaches and nausea from one to two weeks before the period to be followed by abdominal pains during the first two days often of so severe a nature as to compel them to go to bed, losing at least two days each month. Some of them had a fortnight of reasonable comfort, when their sufferings began again.

The date of last menstruation and probable date of the next was ascertained and the treatment in the majority of instances was given between these two. The nasal examination revealed in a few instances marked stenosis from deflected septa, hypertrophy of middle turbinates, etc., and enchondroses of the septum. All of these patients recovered so completely and permanently as to permit a favorable prognosis in each instance.

In the greater number of cases, however, there was *no stenosis whatsoever*, but there was noted a decided tumefaction and engorgement about these "genital spots," and in these the likelihood of benefit to be obtained was believed to be apparent.

In some of the cases the pains existed only at the time of menstruation. These patients received local applications of cocain to the sensitive spots only during the first or second day of menstruation.

The relief occasioned then was often truly wonderful, and the bald recital of pain, treatment and relief tells so little. When we recall the extreme pallor of one of these sufferers as she slowly dragged her way to the office for treatment, her firmly compressed lips and utter weariness, and then within a few minutes after a local application to her nose how her color came back, her breathing was free and she went about her duties instead of to bed as usual, we feel that we have earned her gratitude.

We found that this treatment had to be repeated each month and therefore ceased the cocain experimentation and used the galvanocautery or the trichloracetic acid. The results obtained by the latter were so permanent, and the treatment was so free from the danger of forming synechiae, that in the latter cases in this series all patients were treated with the trichloracetic acid. A mild solution of cocain was applied just before the use of the acid. The slough that forms disappears in about five days, and another application may be made; four applications were made between periods. The patient was then requested to report the results of her next menstruation. If entirely favorable two more reports were requested, and if these remained as favorable nothing further was done.

In those cases in which relief was slight or the results not at all favorable, four more applications were made between menstruations, and if no benefit was obtained the result was marked "no benefit."

While reports of these cases are given later, the histories which follow are illustrative:

CASE 2.—A. K., aged 25, single; Oct. 5, 1910. Menstruation was always painful; on the first two days the patient was compelled to go to bed and take full doses of codein. Two large enchondroses of the septum were removed, and the galvanocautery was applied to sensitive spots. Three years later the patient reports that she has never had menstrual *pain* since.

CASE 3.—C. S., aged 24, single; Oct. 12, 1910. There were severe headache and nausea one week before each menstruation, and severe bearing-down pains the first two days with nausea and headache. The patient was incapacitated from work and compelled to go to bed at least two days each month. There was enchondrosis of septum, and both inferior turbinates were swollen. Operation and subsequent treatment cured this patient.

CASE 13.—M. H., aged 28, married eight years; no children; October, 1911. The patient had excruciating pains immediately before and until menstruation began, and had been operated on four times without obtaining relief. There was deflection of the cartilaginous and bony nasal septum. Treatment *was given by resection and the galvanocautery.* The patient reported six months later that she had menstruated regularly and painlessly. Six months later she reported herself four months pregnant and subsequently brought her baby, a fine healthy child, to my office.

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[2] Mayer: Centralbl. f. Laryngol., 1902, p. 243.
[3] Fliess and Kuttner: Centralbl. f. Gynäk., 1908, p. 981.
[4] Seifert: Ztschr. f. Laryngol., Rhinol. u. i. Grenzgeb., 1912, v, 431.

CASE 29.—F. G., aged 31, single; January, 1911. For the past two years severe menstrual pains, on the first day only, incapacitated the patient. She was unwell at the time, and cocain applied stopped her pain. Three months later pain recurred. Cocain and trichloracetic acid were applied, and there was no recurrence of pain.

CASE 74.—F. L., aged 41, married; November, 1912. The patient had severe headaches four days before each menstruation with nausea, and relief was *obtained only by the hypodermic* injection of morphin. Eight applications of trichloracetic acid to sensitive spots were made between menstruations. The patient reported complete cessation of headaches since the last treatment.

The case-reports which follow form in part the basis of two articles by Brettauer, in the second[5] of which he says that after communicating with all patients treated within the last three years, he finds that over one-half were afforded immediate relief, permanent relief in over one-third, so that doubt as to the value of the treatment is impossible. The patients were all young women, married and single, for whom all the recognized means for the relief of dysmenorrhea had been previously employed and whose pelvic organs presented no organic lesions. One group stands out prominently; those characterized by premenstrual headache, nausea and colic at onset of flow. This symptom-complex was completely relieved. Brettauer considers this treatment of great value and one which should be resorted to in all cases of dysmenorrhea in which pelvic disease is absent.

In all of the ninety-three cases, the greatest care was taken to eliminate the possibility of suggestion, and no promises were ever made. On the contrary, it was briefly explained that some had been benefited and it was hoped that they also might obtain relief; a number of the patients were treated in the dispensary—a place where none could be accused of extended conversation or statements. Nor can any weight be given to the theory of cocain euphoria thus blunting the patient's judgment, for by far the greater number received but little cocain and none at all at the time when their sufferings were due.

That a measure of relief is obtainable by the relief of nasal congestion is very apparent in that every one with pathologic conditions in the nose was permanently cured after their removal, but the manner in which this is occasioned is still an open question.

Of the ninety-three patients whose histories are here briefly presented no report was received from twelve, leaving a total of eighty-one cases reported on. Of these no relief was obtained in nineteen, fourteen were improved and forty-eight were cured—a cure of 60 per cent. of the cases treated with benefit to a total of 75 per cent. Three were treated because of amenorrhea lasting for from three to twelve months, and in each the flow became regular. Four became pregnant, two for the first time. One-half of the number were married. These results are given from the reports made by the patients after treatment.

CONCLUSIONS

1. Permanent relief is obtainable by intranasal treatment of from 50 to 75 per cent of the cases.

2. Trichloracetic acid applied to the genital spots four times at intervals between menstrual periods is usually sufficient to obtain lasting results.

3. It affords an additional field of usefulness to our therapeutics.

These patients were from every walk in life. Only the bare facts of the cure of a large number of these patients are given; but we should bear in mind that all of these women suffered inordinately, for most women accept some pain at menstruation as a matter of course, and it is only after the suffering becomes unbearable that the physician is consulted. Therefore their relief without drugs, operation and uterine treatment by a few applications to the nose adds materially to their comfort and the joy of living.

40 East Forty-First Street.

PELLAGRA

A SUMMARY OF THE FIRST PROGRESS REPORT OF THE THOMPSON-MCFADDEN PELLAGRA COMMISSION *

J. F. SILER, M.D.
Captain Medical Corps, U. S. Army
P. E. GARRISON, M.D.
Passed Assistant Surgeon, U. S. Navy
AND
W. J. MACNEAL, M.D.
Assistant Director of Laboratories, New York Post-Graduate Medical School
NEW YORK

Through the instrumentality of Dr. George N. Miller, at that time president of the New York Post-Graduate Medical School, funds were donated by Col. Robert M. Thompson of New York City and Mr. J. H. McFadden of Philadelphia to support a research expedition for the investigation of pellagra in the United States. It was decided that if possible a commission of three would be formed, one member to be designated by the Surgeon-General of the Army, one by the Surgeon-General of the Navy and one by the authorities of the New York Post-Graduate Medical School. Dr. Jonathan Wright, director of laboratories at the medical school, was requested by the school authorities to act in an advisory capacity. The commission was constituted as follows: Captain J. F. Siler, Medical Corps, U. S. Army, representing the Medical Corps of the U. S. Army; Passed-Assistant Surgeon P. E. Garrison, U. S. Navy, representing the Medical Corps of the U. S. Navy, and Dr. W. J. MacNeal, Professor of Bacteriology and Pathology and Assistant Director of Laboratories, New York Post-Graduate Medical School, representing the New York Post-Graduate Medical School.

It was decided that the investigation should be conducted along two lines: first, an epidemiologic study of pellagra in an endemic area of the South; and, second, *biologic, pathologic* and chemical studies in New York City and elsewhere. The epidemiologic studies were undertaken by Passed Assistant Surgeon P. E. Garrison of the U. S. Navy and J. F. Siler, Captain Medical Corps, U. S. Army.

A field headquarters was established in the South early in June, 1912, and the field studies were continued until Oct. 15, 1912. The Bureau of Entomology of the U. S. Department of Agriculture, early in the spring of 1912, detailed Mr. A. H. Jennings and Mr W. V King to investigate the possible etiologic relationship between insects and pellagra. These entomologists were in South Carolina when the field headquarters of the commission was established, and through the courtesy of Dr L O Howard, Chief of the Bureau of Entomology, it was arranged that these investigators and this *commission* should undertake cooperative work in the same territory

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[5] Brettauer, Joseph: Further Report of Cases of Dysmenorrhea Relieved by Nasal Treatment, Surg., Gynec. and Obst., 1913, xvii, 381.

* From the Division of Tropical Medicine, Department of the Laboratories, New York Post-Graduate Medical School and Hospital. Read at the Pellagra Meeting at Spartanburg, S. C., Sept. 3, 1913.

Biologic, pathologic and chemical studies were undertaken in the laboratories of bacteriology, pathology and pathologic chemistry of the New York Post Graduate Medical School under the supervision of Dr Jonathan Wright, Director of Laboratories and Dr W J MacNeal, a member of the commission. The researches along these lines were carried out by Dr W J MacNeal, Dr. O. S. Hillman, Dr R M Taylor, Dr A C Myers and Dr. M. S. Fine In order to obtain material for these investigations, selected patients were sent to New York from the endemic area, pathologic material was collected in the field, and other material was supplied to the commission through the courtesy of Dr J. W. Babcock of Columbia, S C Studies of the pathologic material are being undertaken by Dr H Douglas Singer of the Illinois State Psychopathic Institute

Several detailed papers constituting a preliminary or progress report have been published during the past year It is the purpose of this present paper to summarize briefly the observations recorded in these separate reports, to discuss their bearing on the various theories concerning the causation of pellagra and to express in a tentative fashion some of our opinions which are based thereon

THE FIELD WORK IN SPARTANBURG, S C.

The epidemiologic studies have led to the accumulation of a very large mass of data concerning the occurrence and distribution of pellagra in Spartanburg County, S. C., in regard to the cases themselves and their conditions in life. Some of this material has been presented in a preliminary fashion in a paper by Siler and Garrison.[1] They have summarized the matter as follows

1. Pellagra shows a striking inequality of distribution in ten townships within the county, the *township rate of prevalence* per ten thousand of population varying from 0 to 71 The city of Spartanburg, with a population of 17,517, gave a rate of 49 per ten thousand against 34 per ten thousand for the remainder of the country

2 Density of population, while showing a tendency to conform to the relative prevalence of the disease, does not alone offer an explanation of the geographic inequalities of its distribution within the county.

3 The cotton mill village population gives a rate of prevalence of 104 per ten thousand against 19 per ten thousand for the remainder of the county and against 16 per ten thousand for the rural sections alone

4 The variations in the rates of prevalence in the ten townships are in a measure proportional to the presence or absence of a large mill village population Excluding the mill village population, there is still a marked discrepancy between the townships, the rate of prevalence in the rural population ranging from 0 to 29 cases per ten thousand of population The excessive prevalence among the farming classes is found in the townships which have a relatively large mill village population

5 The white population of the county gives a prevalence of 45 cases per ten thousand, the negro population a prevalence of 9.5 per ten thousand Excluding the mill village population which is practically all white, the remaining white population still gives a rate of prevalence (25.2 per ten thousand) over two and one half times that among the negroes

6 The rate of prevalence per ten thousand for males in the county is 17, for females, 50.5 White males give a rate of 22.95 per ten thousand, white females, 87.5 per ten thousand, negro males, 3.9 per ten thousand; negro females, 14.9 per ten thousand

7 The rate of prevalence among children under 10 years of age and among adults aged 45 years and older, is practically equal in the two sexes

8 The rate of prevalence drops among males between the ages of 19 and 45 years whereas for females there is a remarkable excess of prevalence between these ages.

9 In both males and females there is a striking fall in prevalence between the ages of 10 and 20 years

10 The most significant fact with regard to occupation is the excessive prevalence of pellagra among women employed in housework.

11 The excessive prevalence of pellagra in the mill-village *population is found largely among women and children at* home during the day Among actual mill workers the rate of prevalence in the two sexes appears to be about equal

12 One half of the cases occurred singly in one family, about one fourth occurred two in one family, the remaining fourth occurred in groups of three, four or five in one family The question of the possible relative importance of family relationship and household association is still under investigation

13 Among cases occurring singly in families, the proportion of children of both sexes under 10 years of age is low and that of adult females excessively high Among cases occurring two or more in one family the proportion of young children is relatively *high, especially among males*

14 While apparently authentic sporadic cases of pellagra within the county can be traced back to as early as 1894, the disease does not appear to have occurred in any great number of cases in any year until 1908 Since 1908 the incidence rate appears to have rapidly increased each year to 1911 The number of new cases developing in 1911 appears to have been slightly greater than in 1912.

15 There was no evidence pointing to any spring and fall recrudescence of the disease in the population, so frequently referred to in the literature of pellagra There is no particularly marked tendency for the seasonal recurrence to appear in an individual during the same month, year after year

16 *Influence of Climate* Climatic conditions appear to influence the development of symptoms of the disease If during the spring months precipitation is high, temperature low and number of rainy days excessive, the appearance of acute symptoms more particularly those involving the skin, is delayed

17 *Symptomatology* It would appear that three or four years ago a large proportion of the cases observed in the county presented intestinal and nervous symptoms of great severity In 1912, in many instances, symptoms were quite mild and sometimes were confined almost exclusively to the cutaneous system, the disease appearing to be of a less virulent type in 1912 than in previous years

18 *Economic Status* In the *majority of cases* (85 per cent) economic conditions are poor and the disease is most prevalent among people of insufficient means

19 *Predisposing Diseases* General health conditions in childhood do not appear to warrant consideration as etiologic factors when the disease develops in adult life In a number of cases the development of pellagrous symptoms in children was preceded by one of the acute exanthematous diseases of childhood About one fourth of the cases gave a history of a preceding chronic disease in adult life In more than one half of the cases (62 per cent) the history was that of good health Among adult females, those most affected were married women (86 per cent) and 86 per cent of the married women had borne children A history of illness immediately preceding the development of pellagra was elicited in 59 per cent of the cases

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[1] Siler and Garrison An Intensive Study of the Epidemiology of Pellagra, Report of Progress, Am Jour Med Sc, July, 1913, p 42, and August, 1913, p 238

20. Hygiene and Sanitation of Houses and Premises: The most insanitary condition found in the county is the absence of properly constructed privies. Outside of a part of the city of Spartanburg, which is supplied by a water-carriage sewage system, there is no effective provision in the county for the proper disposal of human excreta. A second striking insanitary condition is the almost complete absence of effective screening of dwellings. These two conditions present a situation highly favorable to the transmission of disease organisms eliminated in the excreta, both by direct contamination of food and person and by insects. This situation is naturally aggravated in the mill-villages and small towns by the greater congestion of houses. The absence of effective screening for dwellings gives rise to conditions conducive to the possible transfer of diseases transmitted by biting insects.

21. Dietary: Observations on the habitual use of the more common foodstuffs failed to discover any points of difference between pellagrins and non-pellagrins in the county or any facts which would seem to explain the strikingly greater prevalence of pellagra among certain classes of the population.

The most striking defect in the general dietary of the working classes, appears to be the limited use of fresh meats, the animal protein being supplied largely in the form of cured meats, of which salt pork (especially bacon) is the most important.

Unhygienic preparation of food appears to be a probable important factor in the general health of the population.

Investigation of the kind, quantity and quality of corn and corn products used in the county, failed to bring to light any epidemiologic evidence pointing to the agency of corn as an etiologic factor in the disease. The presence of two cases in our series giving a definite history of no corn consumption within two years prior to the onset of symptoms, together with several other cases in which corn products were eaten, if at all, only in small quantity and at extremely rare intervals, would seem to argue strongly against any hypothesis that corn products alone are the causative agent of the disease.

In intimate collaboration with the field party of the commission, Mr. A. H. Jennings and Mr. W. V. King, members of the staff of the Bureau of Entomology, U. S. Department of Agriculture, have pursued thorough studies of the insects which seemed worthy of attention as possible carriers of pellagra in Spartanburg County. The results obtained by these investigators have been presented in two papers.[2]

The following is quoted from their conclusions:

> Ticks, lice, bed-bugs, cockroaches, horse-flies, fleas, mosquitoes, buffalo gnats *(Simulium)*, house-flies and stable-flies *(Stomoxys)* were under consideration. Of these, horse-flies have nothing and cockroaches little to support them.
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> Ticks and fleas are excluded on account of their scarcity and the nature of their biting habits. In view of these characteristics, it is doubtful if even the existence of an animal reservoir of infection would bring the groups into prominence.
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> Lice and bedbugs do not account for the sex or age incidence or the rural nature of the disease; the scarcity of the former species is an additional reason for its exclusion.
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> The rarity of mosquitoes here and the lack of coincidence between their distribution and that of pellagra for the state in general, together with the night-biting habits of the local species, which fail to account for the sex incidence, seem sufficient cause for their elimination.
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> House-flies *(Musca domestica)* should be active if the malady is an intestinal infection in which the germ is passed with the feces, with contaminated food acting as the vehicle of infection.
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> The buffalo gnats *(Simulium)* should be eliminated, principally on account of their biting habits and lack of intimate association with man, also possibly by their comparatively moderate abundance (in our territory). We find that in Spartanburg County they are hardly known as a pest of man and when they do attack him, the nuisance is local and largely confined to field workers. Had Sambon's theory not been advanced, these flies could hardly have attracted suspicion of any connection with pellagra in this country.
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> The stable-fly *(Stomoxys calcitrans)* displays certain salient characteristics which seem to qualify it for the rôle of a transmitter of pellagra.
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> The range of this one species covers and exceeds that of pellagra; its seasonal activity, likewise, is coincident with that of the disease and, although its period of greatest abundance is somewhat later than the maximum intensity of pellagra, its appearance in spring precedes that of most of the spring recurrences and new cases, at which time it is already abundant; it is an abundant species, its abundance being most manifest in rural districts, thus corresponding with the rural nature of pellagra, its numbers amply fulfilling our conception of those necessary to effective disease transmission; it bites by day only, thereby offering an explanation of the phenomenon of sex incidence and the related one of age distribution; it is intimately associated with man and habitually infests his vicinity and enters his dwellings; it bites man frequently and persistently; its longevity seems sufficient for the development of a hypothetic causative organism; it is readily and frequently carried long distances and might thus account for the occurrence of sporadic cases of the disease.

THE LABORATORY WORK IN NEW YORK

The material for the studies made in New York was obtained by sending patients suffering from pellagra from the field headquarters in South Carolina to the Post-Graduate Hospital in New York City. Altogether fifteen patients were sent to New York during the summer. All these patients showed a typical eruption on the skin and there was considerable variation among them as to the severity of the disease, stage of eruption, general physical vigor and financial status. The detailed observations on these patients have not yet been published. One of them remained under observation in the hospital only two days and was then removed to the house of relatives near New York. The other fourteen patients remained under observation until the acute manifestations of pellagra had disappeared and the physical condition of the patients warranted their return home. No specific medication was employed during the attack of pellagra in any of the cases but arsenic was given to two of the patients, after the acute manifestations of the disease had passed, in the form of sodium cacodylate in one case and as Fowler's solution in the other. The detailed observations on these cases and their subsequent history we hope to present in a later report.

The material for laboratory examination was largely obtained from these patients, but in addition samples of blood-serum, blood-films and some other material were obtained from patients in South Carolina and sent to the laboratory in New York.

The histology of the blood was studied by Dr. O. S. Hillman, Lecturer in Pathology at the New York Post-Graduate Medical School, and his report has already appeared.[3] He found a variable degree of chloranemia—not constituting, however, a prominent feature of the disease—and not infrequently a leukocytosis, apparently inexplicable in the light of our present knowledge of the disease. Lymphocytosis was present in the great majority of cases and may be correlated with the general cachexia of the patients and with the presence of digestive disorders. No characteristic or constant variations were detected in the large mononuclear leukocytes or in the eosinophil cells.

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The chemical studies on the patients in New York were carried out by Prof. V. C. Myers and Dr. M. S. Fine and have been reported in detail.[4] The study includes analyses of the gastric juice, quantitative estimation of the food intake and quantitative analysis of the urine and feces of the patients during certain periods of their stay in the hospital. The results of this work have been summarized as follows:

> The ability of individuals suffering from pellagra to utilize the various foodstuffs as indicated by our series of fifteen experiments appears to be only slightly if at all below the normal.
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> The elimination of mineral and nitrogenous constituents in the urine is such as would be anticipated under the dietary and physical conditions of the individuals. A lowered physiologic efficiency is indicated by the low creatinin coefficients and the elimination of small amounts of creatin in the urine. The presence of a few hyaline casts in about 45 per cent. of the cases points to some possible irritation of the kidney.
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> Anacidity is a condition common in pellagra, found in eight of our fourteen cases. It is generally associated with an entire absence of pepsin, or with pepsin in only very minute quantities.
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> Individuals suffering from pellagra show a marked indicanuria, which is excessive in the cases with gastric inefficiency. Though the ethereal sulphate hardly parallels the indoxyl-potassium sulphate, the quantities eliminated are much higher where anacidity exists and they furthermore hold a higher ratio to the inorganic sulphates.
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> The feces contain decidedly abnormal amounts of indol and skatol, especially the latter.
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> The presence of excessive amounts of indican in the urine, associated with a high elimination of ethereal sulphates, when considered in connection with the abnormal amounts of indol and skatol in the feces, points to some unusual bacterial conditions in the intestine. From the data at hand this putrefaction would appear to take place rather high up in the intestine.

The bacteriologic studies[5] were directed more particularly to the possible relation of intestinal bacteria to pellagra and a large number of agglutination tests were made with various bacterial strains. One of these seemed to react with the blood of pellagrins more frequently than with blood of other individuals, but we have not succeeded in establishing a specific relation of this organism to the disease. The quantitative changes in the bacterial flora of the feces are such as might be expected in irritation of the digestive tract. Numerous attempts to produce the disease in monkeys (*Macacus rhesus*) by the injection of defibrinated blood were without definite result.

RELATION OF THE REPORTED OBSERVATIONS TO THE VARIOUS THEORIES CONCERNING THE ETIOLOGY OF PELLAGRA

The theory that pellagra is due to the ingestion of maize or maize products, either good or spoiled, seems to us wholly inadequate to explain the distribution of the disease actually observed in Spartanburg County, S. C., in 1912, not only because typical severe cases of the disease were observed in those who had abstained from the ingestion of corn for a considerable time, but also because there could be discovered no essential difference in respect to the consumption of corn between those suffering from pellagra and those free from the disease.

The conception that pellagra is an infectious disease in some way transmissible from person to person seems to us to be strongly supported by many of the field observations. The higher incidence of pellagra in the more populous districts and the indications of its occurrence in definite foci are in accord with this idea, and, furthermore, the definite tendency to self-limitation of the attack in the absence of specific therapy and during the continuance of a corn diet bears a very suggestive resemblance to the course of an infectious disease. All the members of the commission and every one of the investigators associated with us in the work have come to regard pellagra as an infection in all probability and many of us would state that as our opinion without any reservation whatever.

Concerning the particular mode of transmission of the disease, the observed evidence does not appear to us to be at all conclusive. The theory of Sambon that pellagra is transmitted by a blood-sucking fly of the genus *Simulium* is based on epidemiologic evidence and apparently to a large degree on the conception that pellagra is a disease of field workers and those who go frequently into the fields. In Spartanburg County pellagra appears to be more especially prevalent in the factory villages and has a higher incidence in the City of Spartanburg itself (population 17,517) than in the less thickly populated remainder of the county. Furthermore, the adult males (the class of the population from which the field workers are largely drawn) show a striking relative freedom from the disease in our statistics. Indeed, one may go farther and say that pellagra in Spartanburg County, although it shows a tendency to attack all classes of the population, is more especially a disease of the women and children in the villages of the cotton-mills. Furthermore, it may be stated that in spite of the abundance and universal occurrence of *Simulium* in the area studied, we have been unable to elicit a history of frequent biting of man by buffalo gnats or black flies in Spartanburg County and this point has been inquired into with special care in the cases of pellagra observed. The experience of the field workers of the commission itself, who have spent day after day in the homes and environs of the pellagrins in Spartanburg County, has failed to note a single instance in which anyone of them personally has been attacked by a fly of the genus *Simulium* during the season of 1912.[6]

A comprehensive consideration of the insect life in the county undertaken by Mr. A. H. Jennings and Mr. W. V. King of the Bureau of Entomology, U. S. Department of Agriculture, has led them to the conclusion that if the distribution of pellagra is to be accounted for by a blood-sucking insect, the observed facts in Spartanburg County point to *Stomoxys calcitrans* as the most probable insect carrier. This opinion is shared by the members of the commission. We do not regard the evidence of transmission of pellagra by a blood-sucking insect in this county as at all conclusive, but we do consider it an important field for further observation.

The possible relation of an insufficient diet to the occurrence of pellagra has received careful consideration and we are inclined to ascribe considerable importance to it, not as the sole or essential cause of pellagra, but as a predisposing factor. The foods rich in animal protein, namely, meat, milk and eggs, although apparently used in abundance by a few individual pellagrins in our series, are, nevertheless, conspicuous by their deficiency in many of the cases. The use of these foods may perhaps be

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The conception that pellagra is an infectious disease in some way transmissible from person to person seems to us to be strongly supported by many of the field observations. The higher incidence of pellagra in the more populous districts and the indications of its occurrence in definite foci are in accord with this idea, and, furthermore, the definite tendency to self-limitation of the attack in the absence of specific therapy and during the continuance of a corn diet bears a very suggestive resemblance to the course of an infectious disease. All the members of the commission and every one of the investigators associated with us in the work have come to regard pellagra as an infection in all probability and many of us would state that as our opinion without any reservation whatever.

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The possible relation of an insufficient diet to the occurrence of pellagra has received careful consideration and we are inclined to ascribe considerable importance to it, not as the sole or essential cause of pellagra, but as a predisposing factor. The foods rich in animal protein, namely, meat, milk and eggs, although apparently used in abundance by a few individual pellagrins in our series, are, nevertheless, conspicuous by their deficiency in many of the cases. The use of these foods may perhaps be regarded as an index of economic condition and the variation in the incidence of pellagra be explained as due to economic factors in general. We are inclined, however, to regard the relation of nutrition to pellagra as a more direct one. The thesis that deficiency in the quality and quantity of food can be regarded as the essential cause of pellagra seems to us not to be supported by our studies. The fact is that a poorly nourished community generally shows a higher incidence of pellagra than one on a higher plane of nutrition, and, further, that those individuals in a community who are more poorly nourished seem more liable to develop pellagra. There is abundant evidence that other weakening factors, such as exanthematous disease, childbirth and tuberculosis, may play important rôles as predisposing factors. We are inclined to lay stress on the indication apparent in our statistics that poor nutrition or other predisposing cause results in pellagra only when the individual in question has lived in a relatively close association with a previous case of pellagra. The great mass of the population living under the same general conditions of environment and using the same food but living at a greater distance from cases of pellagra escapes the disease.

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Our ideas concerning the location of a hypothetic infectious agent in the body of the pellagrin and the exact mode or means by which it gains the body of a new victim are very indefinite. The possibility of transmission by blood-sucking insects has already been considered. This hypothesis calls for the presence of the parasite in the blood or in the superficial tissues of the body. We are not aware of other important reasons for supposing that the hypothetic parasite exists in either of these situations. The gross and microscopic appearances and the distribution of the skin lesions as well as the histologic changes in the nervous system have been generally regarded by pathologists as reactions to a general intoxication rather than to local infections.[7] No micro-organisms have been recognized in these lesions. The possibility that such may exist there cannot, however, be excluded.

The possible localization of the hypothetic parasite in the digestive tract has seemed to us to be worthy of careful consideration. The observed distribution of the disease in Spartanburg County is in accord with the conception that pellagra may be transmitted through contamination of food with the excretions of pellagrins. Its greatest prevalence is in those places without adequate provision for the disposal of human wastes. The agreement between the distribution of the open surface privy close to the unscreened dwellings and the distribution of pellagra is in many instances rather striking. The quite constant presence at necropsy of pathologic lesions in the intestine, acute or chronic inflammation, ulceration and atrophy of the intestinal walls in the later stages, as well as the common occurrence of gastro-intestinal symptoms early in the course of the disease are in accord with this hypothesis, although of course they may also be explained as secondary phenomena. In our opinion the view that pellagra is an intestinal infection, transmitted by contaminated food, to which the individual is rendered more susceptible by malnutrition, poorly selected or poorly prepared food and by the common gastro-intestinal disturbances resulting from errors in diet, is a conception worthy of much further study.

These views are expressed at this time to serve as a general summary and conclusion to the series of papers which constitute the first progress report of this commission. Many, but not all of the observed facts on which it is based have been presented in detail in these separate papers. We hope to supplement and extend the observations during the second year of the investigation and expect to present in a later report results of all the work in greater detail, together with ample discussion.

SUMMARY

1. The supposition that the ingestion of good or spoiled maize is the essential cause of pellagra is not supported by our study.

2. Pellagra is in all probability a specific infectious disease communicable from person to person by means at present unknown.

3. We have discovered no evidence incriminating flies of the genus *Simulium* in the causation of pellagra, except their universal distribution throughout the area studied. If it is distributed by a blood-sucking insect, *Stomoxys calcitrans* would appear to be the most probable carrier.

4. We are inclined to regard intimate association in the household and the contamination of food with the excretions of pellagrins as possible modes of distribution of the disease.

5. No specific cause of pellagra has been recognized.

Twentieth Street and Second Avenue.

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[7] Ormsby and Singer: Clinical and Pathologic Studies, Rep. of Pellagra Commission of State of Illinois, Springfield, Ill., 1911, p. 16; Singer and Pollock: The Histopathology of the Nervous System in Pellagra, The Archives Int. Med., June, 1913, p. 565; Mott: The Histologic Changes in the Nervous System of *Dr. Box's* Case of Pellagra, Brit. Med. Jour., July 5, 1913, p. 4.

CLOSED TUBERCULOUS PYONEPHROSIS

H. A. FOWLER, M.D.
WASHINGTON, D. C.

Closed pyonephrosis is one of the most unusual and uncommon complications of renal tuberculosis. As a result of the extensive pathologic changes associated with this form of kidney infection the renal pelvis or the ureters may become completely occluded so that the secretion from the kidney no longer reaches the bladder. This process is called "autonephrectomy" and the resulting condition "closed tuberculous pyonephrosis," or "pyonephrosis tuberculosa occlusa."

This condition is of great surgical interest on account of its rarity as well as the great difficulty experienced in the majority of cases in making a positive diagnosis before operation. Smirnow was able to collect reports of only twenty-four cases scattered through the literature. These he briefly abstracts in a recent paper and adds a personal observation. In this series of cases it is noteworthy that not a single one was reported from this country, and only one case (Whipple) is reported in the English literature. While this complication is comparatively rare, it hardly seems possible that it is as rare as these statistics would indicate. It is significant, however, that Kapsammer records only three in his large series of operations for renal tuberculosis, while not a single one is reported by Israel. Moreover not more than three cases have been reported by any one observer. That the diagnosis is often difficult, or even impossible in some instances before operation, is evident from the fact that in the series collected by Smirnow the condition was recognized and accurately interpreted before operation in only a few cases (six or seven). Without the data furnished by the cystoscope and ureter catheter one had to depend on the older clinical methods of examination for the diagnosis. It was impossible by these means to determine accurately, in certain cases, which was the healthy and which the diseased organ. When the diseased kidney was insensitive and not palpable, while the healthy one was sensitive, palpable and enlarged, the latter has been mistaken for the diseased kidney. The mistake has been made of removing the only functioning organ.

It is probably safe to say that no other condition of the kidney presents greater difficulties in the way of an accurate diagnosis than closed tuberculous pyonephrosis in certain cases. Even with the aid of the newer methods of examination these difficulties are at times insurmountable and a definite preoperative diagnosis is impossible (Zuckerkandl's first case). Closed tuberculous pyonephrosis results from the occlusion of the pelvis of the kidney or the ureter at some point. This may occur in the kidney or ureter, usually at the lower end of the ureter. The resulting anatomicopathologic condition will depend on the number and the location of the strictures as well as on the time when the permanent occlusion takes place. If the stricture occurs at the lower end of the ureter, the latter is generally dilated, together with the renal pelvis; if at the upper end, the ureter will be permeable up to the point of the occlusion, but not dilated, and the renal pelvis and calices may be enormously distended. When the occlusion takes place relatively early, there is generally dilatation above the stricture; if, on the other hand, this occurs gradually and relatively late the kidney may become completely destroyed, and only remnants of the organ will be found at operation, surrounded by dense fibrous tissue.

We find, therefore, that cases of pyonephrosis tuberculosa occlusa fall naturally into two main groups, depending on the presence or absence of renal distention: (1) those presenting a lumbar or abdominal tumor and (2) those in which there is no tumor present and the affected organ is atrophic.

The majority of cases belong to the first group. These patients usually seek relief on account of the swelling in the lumbar region or the upper abdomen, associated with marked pain.

The size of the tumor will depend on the distention of the kidney and its pelvis, and naturally varies widely in different cases. Exceptionally it may attain enormous proportions; in one case (Delbet) the pyonephrotic sac contained 4 liters (about 4 quarts), in another (Tuffier) 2 liters, and in a third (Krausse) 1 liter. Very confusing from the standpoint of diagnosis are the cases in which the abscess ruptures and the pus burrows down along the psoas muscle and points at a lower level. In such cases the condition may be mistaken for one of spinal disease (Simmons' first case).

To the second group belong the cases with extensive renal destruction without distention. The kidney is gradually destroyed by cavity formation and advancing sclerotic changes with fibrous and fatty transformations. In this way the pelvis may be completely obliterated and replaced by a dense deposit of fatty tissue. The small cavities within the kidney substance are surrounded by dense fibrous tissue which completely replaces the renal parenchyma.

The affected kidney is atrophic and at operation is found buried in a dense fibrous tissue. Zuckerkandl was the first to call attention to these cases in his paper before the German Urologic Society in 1907, in which he reported three cases. The difficulties in the way of a correct preoperative diagnosis are well illustrated in the first case. The bladder was so extensively involved with tuberculous ulcers that it was impossible to obtain separate urines. One kidney was large, palpable and tender, while the other was insensitive and not palpable. It was natural to assume that the large kidney was the diseased one. It was only by exposing both kidneys that the real condition was revealed, that the enlarged kidney was the healthy one and had undergone compensatory hypertrophy, while the other was sclerotic and pyonephrotic.

In pyonephrosis tuberculosa occlusa the pathologic changes are not limited to the kidney and ureters, but the infection may extend to the surrounding tissue. This extension occurs directly by the rupture of the pyonephrotic sac or indirectly by the lymph channels. In such cases the perirenal and periureteral tissues are thickened by deposits of dense fibrous and fatty tissue which obscure the anatomic landmarks and make operative interference extremely difficult and tedious. The bladder, too, often becomes secondarily involved by direct extension and complicates the clinical picture.

As suggested by Smirnow the cases of pyonephrosis tuberculosa occlusa may be divided into three clinical groups from the standpoint of diagnosis:

1. The bladder is tuberculous. In the region of the supposedly diseased kidney a large tumor, the pyonephrotic sac, is found. The ureter on this side is impermeable. Diagnosis is easy.

2. The bladder is normal. One ureter is impermeable and on this side there is a tumor in the kidney region. Diagnosis is possible from the history of the case, and symptoms referable to other organs.

3. The tuberculous involvement of the bladder is far advanced and cystoscopy is impossible. An enlarged kidney can be palpated. Diagnosis is only possible by exploratory incision. The enlarged kidney may be healthy and only hypertrophied, while the other kidney is atrophic and tuberculous.

REPORT OF CASE

In February I was called in consultation by Dr. Selhausen to see a young man who he thought had trouble with his left kidney. He gave a history of bladder trouble dating back twelve years. This began with marked and painful urination. The urine contained pus and blood at times. He was examined by Dr. George Walker of Baltimore, who found that his bladder was ulcerated and that the urine contained tubercle bacilli. He was given the usual treatment for tuberculosis of the bladder employed at that time and was advised to go to New Mexico to live. During the next five or six years he lived in Las Vegas, N. Mex. During that time his general condition did not improve and he returned to Washington looking and feeling badly, and with the same urinary symptoms. Urination was so frequent that he had to wear a rubber urinal.

Two years ago he consulted Dr. Young of Baltimore. At that time his bladder capacity was only 30 c.c. Dr. Young was unable to catheterize his ureters, but suspected a left pyonephrosis and advised him to have an operation, but this was refused.

His condition remained about the same until about three weeks before I saw him, when he developed a fever and complained of pain in the left kidney region, extending up under the ribs. Because of the fever, pain and increasing weakness he had been confined to the house for the past three weeks. At the time of our first visit the patient was confined to his bed and complained of pain in his left side, which was sore and tender. He looked and felt ill, his complexion was sallow and he was thin and cadaverous. Examination showed a distinct bulging in the left loin, most prominent just below the costal border in the posterior axillary line. The overlying skin was reddened. This was tender to slight pressure and distinct fluctuation could be made out. The right kidney could not be felt. A hard, small nodule could be felt in each epididymis, which he stated had been present for several years. The urine was perfectly clear, free from shreds and amber in color. The temperature was 101 F.

The diagnosis of perirenal abscess was made and the patient was sent to the university hospital. The same evening an aspirating needle was introduced and a large quantity of thick pus was evacuated. The following day, under cocain, this abscess was opened and a large cavity was found extending upward superficially underneath the ribs toward the pleural cavity. This was evacuated and drained by two rubber tubes.

He improved rapidly after this operation. The fever subsided and he gained 20 pounds in weight during the next three months. Meanwhile the wound continued to discharge profusely despite daily irrigations. The cavity contracted down to a sinus occupied by the drainage-tube, extending about 5 inches upward beneath the ribs. The discharge continued very profuse.

In June, 1911, four months after the operation, it was evident that the patient was losing ground. He again developed a rise in temperature, became weaker and began losing weight. A cystoscopic examination was made at this time and revealed an interesting condition. The bladder was definitely contracted, holding about 90 c.c. The bladder wall was in general normal. The trigon appeared to be pulled around to the left about 45 degrees, so that the right ureteral opening was directly in the midline, while the left opening was drawn far up on the left side. The left opening was indistinct and was surrounded by a hemorrhagic area of inflammation. The right opening was large, patulous and emitted urine at frequent intervals. There were no ulcers present and no tubercles could be seen. Nothing could be seen to escape from the left ureter. A catheter was introduced into the left ureter and passed without difficulty to the pelvis of the kidney. Nothing was obtained through this catheter. Indigocarmin was injected; this appeared from the right ureter in nine minutes. A colored solution was injected into the left ureter in considerable quantity to demonstrate if possible a connection between the pelvis of the left kidney and the sinus of the previous operation. No color appeared and the dressings were not subsequently soiled. It was evident from this examination that the left kidney was not functioning, and there was no demonstrable connection between the kidney pelvis and the sinus from the previous operation. There was no stricture of the left ureter. It was also evident from the patient's general condition that there was a deep focus of infection which had not been reached and which was responsible for his fever and other signs of toxemia. It was presumed that this deep abscess was in the kidney and that the condition was one of closed pyonephrosis, but its relation to the abscess opened four months before was not clear. An exploratory operation on the kidney was advised and accepted.

On June 2 a lumbar incision was made. The scar tissue was pronounced, infiltrating the muscle and obscuring the anatomic landmarks. The lower pole was exposed and stripped of its thickened capsule. Over the upper pole the capsule was greatly thickened and so firm and adherent to surrounding structures that it was with difficulty separated. In the process of freeing this the finger broke through suddenly into a large abscess cavity, and pus in large quantities welled up into the wound. This cavity was rapidly enlarged, exposing an abscess cavity quite as large as one's fist. This cavity was separated from the abscess cavity, opened at the first operation, by the thickened diaphragm. It was evident that the original trouble was at the upper pole of the kidney. The abscess had made its way through the diaphragm and involved the pleural cavity in a tuberculous empyema. It was the abscess in the latter situation which had pointed below the costal margin and was opened at the first operation.

The remnants of the renal parenchyma at the lower pole were removed by merely twisting this off with a pair of clamps. There was very little bleeding. The pelvis and ureter were not identified and were not searched for on account of soiling the wound. Rubber drains were used in the separate cavities, and partial closure of lumbar incision with gauze packing about the drains.

Hemorrhage during the operation was not abundant and was easily controlled. The patient reacted well but was very weak and the pulse was very rapid. On the third day after the operation the bowels were opened with a laxative. A fecal fistula was formed and there was profuse discharge of feces through the wound. Careful examination showed that the fistula had formed at the site of the abscess in the upper pole. The patient's condition grew worse, the abdomen was tender, there was muscular rigidity, the temperature was subnormal and the pulse-rate increased. In the course of the next few days the tenderness and rigidity disappeared, but the condition continued desperate. The fecal fistula continued to discharge, while the drainage of the pus was profuse. The remaining kidney continued active. The patient gradually grew weaker and died ten days after the operation. No necropsy was permitted.

There are several interesting features in the case here reported.

The history of the case covers a period of over twelve years. The first symptoms complained of were referable to the bladder—frequency, urgency, and tenesmus. The lesion in the kidney had unquestionably existed for some time without giving rise to any localizing symptoms. It was only when the bladder became involved in a descending infection that symptoms were produced that attracted attention and forced the patient to consult a physician. At this time the examination showed a marked ulcerative cystitis. The urine contained considerable quantities of pus, and blood and tubercle bacilli were found. When I first saw him, twelve years later, the urine was perfectly clear. Cystoscopy showed a practically healthy bladder mucosa, but a reduced bladder capacity.

The absence of the marked ulcerative cystitis which was present at the first examination was due unquestionably to the blocking of the communication between the infected kidney and bladder. With the flow of infected urine from the kidney over the bladder mucosa cut off the vesical lesions cleared up and practically entirely disappeared. This is an interesting observation and shows how the bladder tuberculosis sometimes heals when the primary source of the infection has been removed by nephrectomy. Here autonephrectomy has accomplished, so far as the bladder was concerned, what surgical nephrectomy at times accomplishes in similar cases. This case illustrates very well the fact that autonephrectomy cannot be considered a curative process. The subsequent history of the patient warns us against trusting to the natural cure of renal tuberculosis by autonephrectomy.

Another interesting feature is the rupture of the abscess in the upper pole through the diaphragm, producing a tuberculous empyema. It was the pus from the pleural cavity gravitating to the lowest point and producing a fluctuating swelling at the costal border that first attracted attention to the region of the kidney. I have not met a similar complication among the cases of closed pyonephrosis reported in the literature. The position of the abscess in the upper pole directly beneath the diaphragm, and the dense fibrous tissue surrounding the whole kidney and closely adherent to the contiguous structure, probably accounts for the pus taking this course. The dense scar tissue doubtless prevented the pus from gravitating downward along the psoas muscle and ureter and outward toward the surface. At the first operation it was the abscess in the pleural cavity that was opened and drained. The primary focus in the kidney remained closed until the second operation.

A further interesting feature in the case is the fecal fistula which formed when the bowels were opened for the first time following the operation. This complication following operation for pyonephrosis and perirenal abscess has been noted, but is, fortunately, very rare. The fistula forms independent of any injury to the peritoneum or bowel. I am certain that in our case no injury was done to either the peritoneum or bowel. The discharge of bowel contents through the wound did not occur until after a laxative had been given. The most probable explanation of this complication in our case would appear to be that the peritoneum overlying the abscess in the upper pole of the kidney became involved and the loop of bowel became adherent at this point. When the support was removed by drainage of the abscess, the peritoneum and bowel gave way before pressure.

2006 Columbia Road.

GASTRIC ULCER FROM OVERWORKING THE STOMACH

R. H. PIERSON, M.D.
Captain Medical Corps, United States Army
FORT GIBBON, ALASKA

It has been my fortune during the past few months to observe seven cases of gastric ulcer which originated under conditions which are not encountered in the experience of the ordinary practitioner and which throw light on the conditions that in some instances at least bring about this trouble. The cases occurred in practice in the town of Tanana, Alaska. This town is situated in the central portion of the territory on the Yukon River. All the cases of gastric ulcer were in men who had been living under conditions peculiar to the country and to a primitive mode of life. They were all strong, robust men who had endured lives of hardship with hard work of the camp and trail. During the same period in the practice of this community there were no other cases of gastro-intestinal disease. Gastric ulcer appears to be about the only kind of digestive disturbance these men have.

Of course so small a number of cases is too few to form a basis for generalization or for conclusions as to the causes of gastric ulcer. These cases are of interest in demonstrating that some conditions will cause the stomach to ulcerate. They are also of interest in that when the conditions which had caused the development of the ulcer were corrected the symptoms promptly subsided in every case treated. No operative interference was required to effect a cure.

In all of these cases the clinical manifestations were typical. Three were of the hemorrhagic type. In two of them there were profuse and repeated hemorrhages from the stomach, of 500 c.c. or more. There is no reasonable doubt as to the correctness of the diagnoses.

All of the men were engaged in outdoor occupations. They were hunters, trappers and miners. One was a telegraph operator at an isolated station on the Yukon River. He had, however, lived under the same conditions as the other patients. His diet had been the same.

The conditions of life in Alaska are such that few but strong men remain in the country and none but strong men can follow the trail and live in the woods and camps for a long time. The diet is such as the country affords, with the addition of tea, coffee, some liquor and canned goods. The meat is mostly bacon, or canned meats, and game, the latter being plentiful; meat forms a large share of the food. Vegetables are few. The bread is either baking-powder biscuit or the "sour-dough" hot cakes. From October until June there are no fresh vegetables. In some instances berries, put up with equal amounts of sugar, uncooked, were eaten as a preventive of scurvy. There was usually an attempt to keep potatoes unfrozen, which could be eaten as an antiscorbutic. Scurvy did not appear to be a factor in the cases which were treated for gastric ulcer, though it would seem that it might reasonably be taken into consideration as a contributing cause, especially in the hemorrhagic cases. The use of alcohol was carried to excess in but one case. The other men lived under conditions which made it very hard for them to get liquors. They were not hard drinkers, even when liquor could be easily obtained.

The essential factors which all these cases had in common were the following: 1. In all instances the food was rough. 2. There was a large proportion of nitrogenous food. 3. The cooking was poor. 4. Few green vegetables were used. 5. The meats eaten were either salt or dark meats, mostly game. 6. On account of the hard life which these men lived and the conditions of extreme cold they became accustomed to eat immense quantities of food which had a high caloric value.

These men needed a great amount of food to furnish energy for the strenuous physical exertion which their method of life necessitated as well as to maintain the heat of the body while they were exposed to the rigors of and extremely cold climate. The body called for an excessive amount of nourishment and the stomach had to furnish it. To furnish heat and muscular energy for the body the stomach was given coarse food, which was mostly nitrogenous and which was in some instances poorly cooked. Taking into consideration what the stomach had to do and what it had to do it with, it appears that the stomach deserves high credit for the way it attempted to do its work. One sample meal consisted of one duck, four potatoes and six baking-powder biscuits. A pound of beans and a pint of coffee is not an unusual simple meal for one of these men.

For a time the patients got along well. After a year or two there were usually symptoms of gastric ulcer. The histories usually gave the record of pain after eating. Indigestion and pain in the stomach would come on toward spring. The men found that they needed a change of food. They were no longer able to eat beans. There are a great many men who only reach this stage of the disease. They come to town where they can get eggs and raised bread and green vegetables. Some of them take warning from the premonitory symptoms and pay more attention to their diet. These men are suffering from the early symptoms of gastric ulcer. They cure themselves by changing their diet in response to the demands of Nature, which are manifested by cravings for certain foods that will be better suited to the stomach. After all, Nature is our best physician, and if we but obey her demands many of the diseases from which we suffer will be cured in their incipiency.

The stomach is a willing and a faithful servant to most of us. When our bodies demand nourishment the stomach seldom complains. It seems to know when it is required to do its best because the body needs food or when food is simply being thrown into it for the satisfaction of an overindulged appetite. When the body needs food the stomach usually does its best to furnish nutrition. When unneeded food is placed in the stomach, the stomach resents the imposition and refuses to digest the food. Among city dwellers who overload their stomachs we get indigestion. Among frontiersmen who have to overtax their stomachs we find the stomachs doing their best to accommodate their activities to meet the demands of the system. Such stomachs get to secrete a strong and excessively acid gastric juice. They digest almost any kind of food and enormous quantities of it. After a while they get to digest their own walls. It is a wonderful demonstration of the way in which Nature will attempt to meet demands which are made even though the demands are most unreasonable. When we consider the causes and see the results it is not surprising that these men suffer from gastric ulcer and not from simple indigestion. They never acquire gastroptosis or atony. They have ulceration, which is the disease of strong stomachs that have been overworked rather than weak stomachs that have been abused.

This conception of the etiology of gastric ulcer may not apply to cases which come to the observation of practitioners who have to deal with patients most of whom follow the sedentary occupations of city dwellers. The fact that the causes which have been described have resulted in gastric ulcer is not without interest or significance. It suggests a rational line of treatment.

The most valuable article on the subject of treatment of gastric ulcer which has come to my notice has been that by Dr. J. W. Weinstein.[1] The treatment used in my cases followed the principles which are outlined by him. It is a treatment which has for its object the correction of the perverted natural process. There has been in a case of gastric ulcer a hypertrophy of the hydrochloric and peptic-secreting glands. The glands have become abnormally active. The muscular tone of the stomach is usually below normal. The stomach is apt to be dilated, but not below the normal level. It quickly regains tone. At the end of a week's treatment there was no more dilatation. It is probable that the fact that the patients treated were strong men, otherwise sound, materially aided in securing prompt recovery with medical treatment alone. When Nature is given a fair chance she will work her own cures, which is fortunate for the medical profession as well as for many of our patients. A little assistance is often all that is required by Nature for the perfection of a cure.

TREATMENT

Following is a brief outline of the treatment employed:

1. Rest in bed. This is essential for the first week; without it prompt results will not be secured.
2. The amount of gastric secretion is diminished by the use of belladonna or atropin given before meals.
3. Bismuth in some form is used before meals to protect the stomach walls.
4. When there is hyperacidity or pain over the pyloric region from 15 to 20 grains of sodium bicarbonate are given (four or five soda mints). It is well to give 15 grains of bicarbonate half an hour after each meal for the first week whether or not there is pain and distention.
5. A saline aperient is used every morning. Sodium phosphate in hot water has been found satisfactory.
6. A cold pack is applied over the stomach every night. The patient wears it through the night and takes it off in the morning. It is quite possible that the pressure by this pack over the stomach is beneficial. It seems to give some relief to the patients. They have less flatulence.
7. The food is to be eaten slowly, well chewed and is of a moderate quantity. The stomach is never loaded.
8. The foods which are allowed are those which call for a minimum of hydrochloric digestion. It is best to use foods which are largely digested in the intestine and which do not stimulate the functions of the stomach. The stomach is given a rest. Carbohydrate foods allowed are stale bread, crackers, shredded wheat biscuit, cereals with milk and little sugar, toast, corn-starch, tapioca. No nitrogenous food is permitted at first; later milk, then soft boiled or poached eggs, still later boiled fish. The fruits permitted are baked apples (pulp alone), ripe bananas (one at meal time), orange or grape juice in moderate quantities. The vegetables allowed are mashed potatoes, lettuce, asparagus tips, spinach or beet greens (tender leaves with salt and olive oil only as a seasoning). Butter and olive oil, weak tea or milk may be taken.

Foods not allowed are: stimulants of any kind; seasonings (other than salt or olive oil); meats; beef extracts; soups other than vegetable; salt or dried fish: any vegetable foods which have heavy fiber or husks; an excessive amount of sweets.

Tobacco cannot be used for the first ten days. After that time it can be used in moderation, but not chewed.

The treatment consists essentially in giving the stomach a rest and inhibiting the production of its secretion. This is accomplished by checking part of the secretion through the use of belladonna, by diminishing the activity of the secretion through the neutralizing action of its acid, by selection of foods which do not stimulate the gastric secretions and by diminishing the amount of food which is consumed. By the rest in bed the physiologic processes of the body are slowed up. The demand for food drops. A man who has been living an outdoor life with fairly active exercise in a cold climate will require from 4,500 to 6,000 calories of food to maintain the bodily heat and supply energy for his work. As soon as he is put to bed in a warm room the demand for fuel drops to from 1,600 to 2,000 caloric value. When, in addition to this relief of the stomach from the demands which have been made on it, the character of the food is changed so that it is easily digested and that most of it is digested in the intestine and not in the stomach, then in comparison with what it has been doing, the stomach is afforded an almost complete rest. This treatment is simple and rational. It has for the few cases treated proved itself to be extremely effective.

In the cases which were treated by this method there was no pain remaining at the end of the first week. When practicable the patient was required to remain in hospital for one week longer. At the end of that time the patients were ready to leave the hospital and complete the cure at home. In each case the nature of the trouble was carefully explained to the patient and he was given a typewritten letter of instructions for continuation of treatment, with diet lists of foods which were and which were not allowed. Thus far there have been no recurrences.

The results which have been obtained in the treatment of these few cases are unusual. It is not believed that such results will be obtained in treatment of persons who live in cities. We have had here exceptional material to work with. The men have all had excellent general constitutions. The results are interesting to the general practitioner as illustrating what cures can be accomplished under the most favorable circumstances and as demonstrating the soundness of the principles on which this method of the medicinal treatment for gastric ulcer is based.

The general practitioner has come to regard ulcer of the stomach as a disease which is not readily amenable to medicinal treatment. He is apt to turn his case over *to the surgeon as soon as the diagnosis has been made.*

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[1] Weinstein, J. W.: A New Method of Treatment of Ulcer of the Stomach, THE JOURNAL A. M. A., *Sept. 28, 1912, p. 1151.*

No greater injustice could be done the patient. He has a trouble which is probably quite submissive to suitable treatment which is systematically carried out. He cannot be simply given a pill and a bottle of pepsin and cured. The fault in treatment of gastric ulcer has been largely that the physician has, until this time, given only a haphazard treatment. When the patient comes to his office the physician usually gives him some sort of a digestive ferment or a bitter tonic. He may even make a stomach analysis or wash out the stomach as frequently *as the patient has sufficient funds to pay for.* There is seldom an inquiry made as to the patient's mode of life or any attempt to correct the gross errors in his regular habit and method of life.

We are too apt to regard the stomach as a mere receptacle for food and drugs. It has been too little respected. The stomach can almost think. It knows what kind of food is put into it and tries to furnish a different kind of digestive juice for each kind. It knows when it is being imposed on or when it is simply being made to do its share of the work which the other organs of the body are doing. As a usual thing the stomach is as faithful and as uncomplaining as a beast of burden. It may be scalded with hot drinks and chilled with ices. It may be heaped with rubbish and soaked with gallons of beer. It may be pickled with alcohol and blistered with pepper *and mustard. It may be required to convert pounds of* the roughest material into nourishment for the body and may perform the seemingly impossible task for several years without complaint. In the end the efforts which it makes to meet the unreasonable demands of its master are its own undoing. The overworked stomach, though about worn out, keeps on with its efforts to produce a strong digesting secretion. It does not need medicine or much if any treatment. It needs simply to be given relief and an opportunity to recuperate, when it will again be the docile and willing servant which it has always been.

The surgical treatment of gastric ulcer has been successful in many cases. It is particularly so in the cases of chronic flat ulcer. In this type there are apt to be the most adhesions and other anomalies which need mechanical correction. In the small, deep, perforating ulcers which are frequently of the hemorrhagic type there has been less success from operative treatment. It is just this type of ulcer which is most quickly cured by readjustment of the diet and habits of the patient to natural physiologic laws. There is great hope of success in the rational treatment of gastric ulcer. It is well known that attacks of this disease come and go. It can be demonstrated that in most cases the attacks come as a result of definite causes and that spontaneous cures result when the patient responds to natural laws.

Absence of Hydrochloric Acid After Test Meal.—It is unwise to rely on a single negative result or even a series of negative results in the estimation of HCl unless the evacuation of the stomach is carried out at varying periods after a test meal. This is illustrated in the case reported by T. Gillman Moorhead (Dublin *Jour. Med. Sc.*, Oct. 1, 1913) in a woman aged 50, suffering from pain in the stomach, flatulence, vomiting and loss of weight. A test meal of the usual Ewald type removed an hour after taking showed no HCl. Several other examinations an hour after taking the meal showed the same results. In another test in which the removal of the meal was delayed until two hours after taking, HCl was found present in considerable quantities. Subsequent tests after longer intervals also showed HCl. Moorhead calls attention to the importance of this in case cancer is suspected on account of the absence of HCl in the stomach contents after a test meal.

NOTES IN THE STUDY OF POTASSIUM MERCURIC-IODID

DOUGLAS MACFARLAN, M.D.
PHILADELPHIA

To attempt to add still further to the host of antiseptics may seem a useless endeavor. The field has already been well covered and the relative values and merits so well established that the most fastidious can now be readily satisfied. Of late years it has largely been a matter of the complementary qualities, rather than the germicidal powers, that has determined the choice of antiseptics. Indeed, at times the comparative antiseptic values seem ignored in the consideration of the less important qualities. But naturally the distinctive merit of all antiseptics should be first of all in antiseptic powers.

For this alone, then, potassium mercuric-iodid has a claim for marked consideration. No other antiseptic can justly claim such great power in great dilutions and none is of so remarkably low toxicity for its strength.

PREPARATION

Potassium mercuric-iodid has been described in New and Nonofficial Remedies.[1] Red mercuric iodid is readily soluble in alcohol or water on the addition of approximately twice its weight of potassium iodid. A new salt is formed, potassium mercuric-iodid, K_2HgI_4. Thus this salt is formed from 1 grain of mercuric iodid and $2^{1}/_{5}$ grains of potassium iodid on the addition of a few cubic centimeters of water. If not enough potassium iodid has been used the resultant light-yellow solution, though apparently clear, will deposit after a few hours a yellow sediment of the crystals of potassium mercuric-iodid. To have the ideal solution, sufficient potassium iodid should be added to give a perfectly colorless liquid, and only distilled water should be used in making it.

Boullay[2] states that a concentrated solution of potassium iodid will dissolve mercuric iodid in the ratio of 3 molecules of the mercuric salt for every 2 of the potassium salt. From such a solution, however, the crystals of potassium mercuric-iodid are prone to separate out, and often the red iodid itself comes down again. For practical purposes it is better to use the clear solution, the strength of which may be recognized from the amount of red mercuric iodid used. The small amount of potassium iodid, especially when dilutions are made, is an indifferent factor. Thus the formula of a 1 per cent. solution of *mercuric iodid in potassium iodid* would be:

Mercuric iodid	1 gm.
Potassium iodid	4 gm.
Distilled water	100 c.c.

This solution will be found quite permanent and may be kept for months without change. The liquid is clear, of metallic taste and very irritating to the mucous membranes. In dilutions which it is safe to use it shows no tendency to coagulate albumins; but it is incompatible with the organic alkaloids, with which it produces insoluble precipitates. On account of this property it has been used as a qualitative and quantitative test for the alkaloids.[3]

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[1] New and Nonofficial Remedies, 1913, p. 196. See also U. S. Dispensatory, ed. 19, p. 1800.

[2] Boullay: Ann. de chim. et phys., xxxiv, 345.

[3] F. F. Mayer and F. L. Winkler's Tests, Am. Jour. Pharm., 1886, p. 579; 1887, p. 1.

TOXICITY

A 1 per cent. solution gives all the effects of a mild irritant; if rubbed on the hands or applied as a wet dressing it produces a moderate hyperemia, tingling and hypersensitivity. On mucous surfaces its action is most marked. Applied by a swab to the nose or throat it causes a profuse flow of secretion, thin and watery. There is marked lacrimation, salivation and rhinorrhea which lasts for an hour or two. Sneezing is at times very severe, and this with the free discharge gives a picture closely resembling an acute attack of hay-fever. On the gastro-intestinal tract there is likewise decided irritation if taken in sufficient amount. A sense of burning in the epigastrium, nausea, vomiting and profuse diarrhea are the symptoms encountered. The drug has no apparent effect on the circulation, muscular or nervous systems, or on the genito-urinary tract.

It appears that if the local irritant effect is overcome by dilution, comparatively large amounts may be taken internally without producing severe symptoms. On a number of cases in which the drug was pushed, from 5 to 7 drops of a 1 per cent. solution was the limit of toleration, while from 15 to 18 drops of the same solution could be borne if well diluted. With a prolonged trial of the drug it seems that there is no tendency to cumulative effect. No ptyalism has been observed in any of the cases in which the strongest tolerable doses were given over a period of months. Elimination appears to keep pace fully with assimilation. Vomiting and other symptoms of gastric irritation that appear when too strong a dose has been taken soon subside when the drug is stopped. Its use, apparently, can be resumed at once after the toxic symptoms are abated.

TABLE 1—RECORDS AND SUBCULTURES TAKEN AFTER TWENTY-FOUR HOURS

	Strength of Potassium Mercuric-Iodid Solution				
	1:60,000	1:70,000	1:80,000	1:90,000	1:100,000
B. typhosus— (Bouillon)	Sterile	Sterile	Sterile	Sterile	Three small colonies on plating
Staphylococci— (Bouillon)	Sterile	Sterile	Sterile	Scattered half dozen colonies on plating	Numerous colonies
B. lactis bulg.— (Milk mediums)	Sterile	Sterile	Sterile	Trace of activity	Moderate activity
Yeast-sugar sol........	Sterile	Sterile	Sterile	Very faint trace of activity	Faint trace of activity
B. acidi lactici— (Milk mediums)	Sterile	Sterile	Sterile	Trace of activity	Activity equal to the control

EFFECTS ON PHYSIOLOGIC ACTIVITIES

In 1 per cent. solution *in vitro* potassium mercuric-iodid had no appreciable effect on ptyalin, rennet, pepsin-hydrochloric or pancreatic activity. This was verified repeatedly, and in every instance the series corresponded with the control. In respect to its activity on micro-organisms, however, a much different condition was found. Marked inhibitory and germicidal effects are seen in the weakest dilutions, and it is in this field that the drug finds its greatest usefulness.

Fermentation by yeast was prevented by the presence of potassium mercuric-iodid in dilution of 1:80,000; while in dilutions of 1:100,000 there was but a faint trace of yeast activity.

With a strain of staphylococci that was quite prolific on natural mediums, an inoculation in 1:80,000 potassium mercuric-iodid agar was sterile twenty-four hours later. A few scattered colonies (only three in one instance) appeared in the presence of 1:100,000 potassium mercuric-iodid.

A strain of typhoid bacillus did not appear in an inoculation of agar and broth mediums of 1:60,000 potassium mercuric-iodid strength. It was inhibited in dilutions up to 1:80,000 (Table 1).

A series to determine the relative activity of the germicide in relation to time showed that dilutions of 1:60,000 "killed" a typhoid strain in a period as rapid as two minutes. The procedure suggested by Park[4] of the use of contaminated pieces of thread was adopted.

The action on the flora of the gastro-intestinal tract can readily be inferred, though this matter has not as yet been definitely confirmed. At times clinical evidence seems suggestive, in the rapid disappearance of some of the intestinal diarrhea on the exhibition of this remedy.

Little, then, can be said of the noxious effects on the gastro-intestinal tract when the drug is taken in mild doses. There is no inhibition of ferment activity, and whatever harm that could occur would arise from destruction of intestinal bacteria.

As an incidental to considering effects on digestion of food it has been noted that in dilution of 1:100, 1:1,000 and 1:10,000 potassium mercuric-iodid hastens the formation of curd in milk. The stronger solutions are the more effective, a 1 per cent. solution in thirty-six hours' time leaving a firm, homogeneous, smooth curd above a perfectly clear whey. *Bacillus lactis* is inhibited by the presence of the salt in the same dilutions as previously recorded for other bacteria from 1:80,000 to 1:100,000.

USES

Before consideration of its greatest value, its antiseptic powers, it may be well to notice some incidental uses for which the drug has been recommended.

In 1834 the salt was "presented to the profession as a new remedy of remarkable powers" by Dr. William Channing of New York.[5] With the enthusiasm common to the introduction of anything new the drug was "found useful in chronic bronchitis, whooping-cough, tonsillitis, chronic gastro-enteritis, dyspepsia, ascites, anasarca, amenorrhea, leukorrhea, eruptions and scrofula." No doubt this list would have been lengthened had Dr. Channing more confidence in the credulity of the profession. A man of his experience, however, no doubt honestly and fully appreciated the fact that he had come on a remedy of value. He further reports its use in some cases of phthisis, in which he found it mitigating the symptoms and prolonging life.

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[4] Park, W. H.: Pathogenic Bacteria and Protozoa; New York, Lea and Febiger, ed. 3, p. 108.

[5] Channing, William: Am. Jour. Med. Sc., 1834, xiii, 388.

Dr. Hildreth's[6] trial of the remedy satisfied him as to its benefits in "functional dyspepsia, amenorrhea, dysmenorrhea, leukorrhea, scrofulous affections, ascites and general dropsy." These two men used the solution of the drug in doses equivalent to from $^1/_{12}$ to $^1/_{40}$ grain of the crystals.

Its value as an internal remedy in all of the conditions mentioned is doubtful. It does, however, seem to have a marked effect on all catarrhal conditions of the mucous membranes, clearing up the common cold, apparently shortening the course of croup, and modifying the acute infections of the nose, throat and bronchi. This conclusion has been reached after careful observation and repeated trial. Nearly all patients with catarrhal conditions remark that it gives them great benefit in freeing the sticky mucus. This is particularly true in acute bronchitis. In those cases of gastritis and enteritis that exhibit much mucus the same effect has been noted. It further acts by its irritation to the mucous membrane as a mild stomachic if used in a careful dose.

In spite of frequent trials I have not obtained the effects claimed for it in leukorrhea and in menstrual disorders.

Locally, a beneficial effect has often been noted in atrophic rhinitis when applied in the nares as a swab or spray. In a dilute solution the remedy acts as a remarkable germicide and stimulant, resembling formaldehyd in its effects. The results seem more effective and permanent than those obtained with the latter. The irritant qualities of the drug exercise the secreting glands that remain, the mucus becomes thinner and more free, and the ozena rapidly subsides.

In a number of cases acute frontal sinusitis the drug has been tried by local application. Here again marked relief has been noted because of the free rhinorrhea that the irritation sets up. The free outpouring of thin mucus sweeps before it the thick purulent secretions that have backed up in the blind cavities. A possible objection to its use is the slight swelling of the mucous membrane and somewhat increased stenosis of the canals resulting. Naturally there is much danger of the promiscuous use of the drug in the nose and throat.

The French for a long time have been using potassium mercuric-iodid for syphilis and skin diseases, the prescription of preference being widely known as the "one, two, three mixture": 1 gram of red iodid, 2 grams of potassium iodid and 3 ounces of diluent, either water or alcohol. On account of its solubility, it was considered the most readily assimilated mercurial preparation. Actual experiments, however, have not been made to establish accurately this supposition. In psoriasis, cryptogenic infections of the skin and in lupus the French have long been partial to potassium mercuric iodid, using it both internally and as an ointment.[8]

In this country Dr. Archibald Church has had good success from the use of sodium mercuric-iodid for intramuscular injections.[9]

But above all these incidental uses, it is as an antiseptic that its field is greatest, it being here practically universal in its possibilities, for in great dilutions its local effects and toxicity are insignificant while its germicidal qualities still remain high. The value of these virtues can readily be realized when the following facts are again referred to: 1. The drug may be taken internally in doses of 5 drops of a 1 per cent. solution without toxic effect. 2. A 1 per cent. solution has but slight irritant action. 3. A dilution of 1:80 000, or nearly one one-thousandth of 1 per cent., exhibits marked germicidal powers.

At a glance Table 2 will give a graphic idea of where this solution stands in relation to other common antiseptics.

TABLE 2.—PARK'S TABLE OF ANTISEPTIC GERMICIDAL STRENGTH*

Alum	1 22		
Aluminum acetate	1 6 000	Ferrous sulphate	1 200
Ammonium chlorid	1 9	Formaldehyd 40 per cent	1 10 000
Boric acid	1 143	Hydrogen peroxid	1 .20 000
Calcium chlorid	1 25	Mercuric chlorid	1 ·14 300
Calcium hypochlorite	1 1 000	Mercuric iodid	1 40 000
Phenol	1 333	Pure formaldehyd	1 25 000
Chloral hydrate	1 107	Silver nitrate	1 12 500
Copper sulphate	1 200		

* Park, W. H. Pathogenic Bacteria and Protozoa, ed. 3, Lea and Febiger, p. 108.

There appears no limit to the use of potassium mercuric iodid in this field. Cases of erysipelas, acne, pustular infections of the skin of all varieties, lupus and psoriasis show remarkable results under its use. The purulent discharge of so many minor surgical cases such as infected burns, old leg ulcers and ragged wounds is rapidly cleared up. Even when the affection is somewhat subcutaneous, as in felons and boils, when there is as yet no pointing or definite formation of pus, a wet dressing of 1 per cent. potassium mercuric-iodid will usually reduce the prolonged course of the case and will frequently abort it altogether.

For the sterilization of instruments the drug is excellent, except for its tendency to tarnish if left in contact too long. This can be easily overcome by the addition of a little sodium bicarbonate to the solution. McClintic suggests the addition of sodium bicarbonate to overcome this disadvantage.

It is hoped that with such definite evidence of the value of potassium mercuric-iodid, the recommendation of its clinical results and its manifest powers in laboratory experiment, this preparation will find some disciples among those who wander indefinitely hither and thither from antiseptic to antiseptic.

1805 Chestnut Street.

EXPERIMENTAL STUDIES IN POLIOMYELITIS*

PHEBE L. DUBOIS, M.D., JOSEPHINE B. NEAL, M.D.
AND
A. ZINGHER, M.D.
NEW YORK

The establishment of abortive and meningitic forms of poliomyelitis by Wickman has thrown much light on the epidemiology of the disease. In the efforts to produce the disease in monkeys by the injections of the secretions of abortive cases, there have been varying degrees of success.

Kling, Pettersson and Wernstedt[1] report six cases in which inoculations from the mouth or intestines in abortive cases resulted in lesions characterized by degeneration rather than infiltration in the brain and cord of monkeys. The inoculation of several monkeys—the

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6. Hildreth: Am. Jour. Med. Sc., 1853, xxvi, 1312.

8. Progrès méd., July, 1913.

9. Puckner, W. A.: The Use of Mercuric Iodid Solutions for Intramuscular Injections, The Journal A. M. A., Feb. 13, 1909, p. 573.

* From the Research Laboratory, Department of Health, New York City.

1. Kling, Pettersson and Wernstedt: Investigations on Epidemic Infantile Paralysis, Rep. from the State Med. Inst., Sweden, to the Fifteenth Internat. Cong. Hyg. and Demog., 1912.

number is not stated—gave negative results. Three of the positive results were obtained by washings done ten days, one and a half months and three and a half months respectively after the onset of the symptoms.

On the other hand, Kling and Levaditi[2] were unable to obtain results in two abortive cases. They were unsuccessful, however, in a large percentage of their typical cases. In their interesting study they point out a type of case not often described, namely, a type characterized by a short prodromal stage with headache, fever and malaise succeeded by a period of apparent good health lasting several days, after which the true attack develops with manifestations of nerve involvement which may go on to death.

Monkey 2 of our experiments seemed to show this clinical picture with respect to the objective symptoms. Kling, Pettersson, Wernstedt point out that degenerative lesions not accompanied by infiltration are characteristic of an attenuated virus, this being the type of lesion they obtained from the abortive cases. The lesions in the monkeys in our experiments showed considerable infiltration as well as degenerative changes, but the virus died out quickly.

In the summer of 1912 we passed the feces from a typical case of poliomyelitis through a Berkefeld filter and injected the filtrate intraspinally into a monkey with negative results.

Jan. 10, 1913, we were called to see a case of what we diagnosed as abortive poliomyelitis.

History.—Robert A., aged 5, reported by Dr. Spivacke. There was a sudden onset January 7, with a temperature of 102 to 106 F. of short duration, which was not followed by paralysis.

Lumbar puncture January 10; 50 c.c. clear fluid withdrawn under high pressure. Cytology: cells increased, 90 per cent. mononuclears, and a number of large endothelial cells were found. Bacteriologic examination: smear negative, culture sterile. Albumin + (slightly increased). Globulin + (slightly increased). Animal inoculation: two guinea-pigs; one died January 19, and on necropsy showed pus in the pericardium and the pleura. The other was found to be negative, February 11.

Jan. 24, 1913, Mrs. A., Robert's mother, who had been taking care of him in isolation, had her nose and throat thoroughly washed out with normal saline solution. January 25 and 26, washings were passed through a Berkefeld filter. January 27, 40 c.c. were injected intraperitoneally into a monkey. The result was negative.

Jan. 24, 1913, Robert's nose and throat washed out with normal saline. He kicked and screamed and struggled so that we could not do it satisfactorily. January 25 the washings were put through the Berkefeld filter and 20 c.c. injected intraperitoneally into a monkey.

February 14: Monkey sick.
February 17: Partially paralyzed in hind legs.
February 18: Drags right foot; chloroformed.
Necropsy.

Brain: slight injection of cerebral vessels; dura not adherent; otherwise macroscopically negative, and no hemorrhage in the cortex.

Spinal cord: congestion of dura over dorsal region, extending down to the lumbar enlargement. Dura not adherent; no hemorrhage in the spinal cord itself; gray matter easily distinguished from surrounding white columns. Apparently no increase in cerebrospinal fluid.

Thorax: heart and lungs negative.

Abdomen: liver somewhat enlarged; otherwise negative; spleen, gastro-intestinal tract and kidneys negative.

Sections from spinal cord, cerebrum and medulla showed round-cell infiltration and some degeneration of anterior horn cells. Smears from the spinal cord, cerebrum and medulla proved to be too thick and nothing could be made out from them.

The brain and cord were stored in the ice-box in 50 per cent. glycerin.

February 24: Emulsion from cerebrum, medulla and spinal cord of the monkeys made in normal saline, filtered through gauze and then through Berkefeld and filtrate injected intraperitoneally in Monkey 2.

March 6: Monkey paralyzed in right hind paw. Temperature, 104.5 F.

March 8: Temperature, 103.2 F.

After this the monkey slowly improved and partially regained the use of its paw. It seemed in fairly good condition until April 19 or 20 when the upper extremities became involved. It was killed April 24.

Through a misunderstanding an assistant did a partial necropsy, removing the brain and cord, but macerating the cord so that sections could not be made. He said that the cord seemed very soft and that there was a great deal of fluid present, and also that there was something the matter with the lungs.

Impression smears of the brain stained with Giemsa showed a few extracellular and intracellular globoid bodies like those described by Noguchi.

April 10: Monkey injected intraperitoneally with filtrate made by passing through a Berkefeld filter an emulsion made up with normal saline solution of portions of the cord, medulla and cerebrum of the first positive monkey. Result negative.

May 8: Filtrate made by passing emulsion of remnants of spinal cord, medulla, etc., of the second positive monkey through Berkefeld filter was centrifuged and the upper portion injected intraperitoneally into a monkey with negative results.

SUMMARY

1. Negative results from feces of patient with typical poliomyelitis.
2. Positive result (paralysis and microscopic findings) from washings of nose and throat of patient with abortive case seventeen days after onset.
3. Positive result (paralysis and microscopic findings) of second monkey injected with brain and cord of monkey infected with washings.
4. Rapid loss of virulence of brain and cord.

THE QUANTITATIVE DETERMINATION OF ALBUMIN IN SPUTUM WITH POTASSIUM FERROCYANID *

M. L. HOLM, M.D.
State Bacteriologist
AND
L. R. HIMMELBERGER, B.S.
Assistant Bacteriologist
LANSING, MICH.

In summing up the annual records of sputa examinations in the past years it has been somewhat humiliating to realize that specific information has been given from the laboratory findings in only a little over one-fourth of the cases. The remaining three-fourths have been reported back negative, meaning that the patient may or may not have been afflicted with tuberculosis.

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[2] Kling and Levaditi: Etudes sur la poliomyelitis aiguë epidémique, published by the Institut Pasteur de Paris, 1913.

* From the laboratory of the Michigan State Board of Health

The investigations of the albumin test during the past three years have inspired the laboratory worker with a new hope. The possibility of being able definitely to exclude tuberculosis by laboratory methods in a large proportion of cases is comforting, and the probability of giving valuable assistance in the diagnosis of incipient cases, while still closed, before the bacilli appear in the sputum is encouraging; but the additional announcement of a quantitative method and the presumptive relation between the percentage of albumin and progress of the case incites our fondest dreams.

Most workers who have investigated the albumin reaction are convinced that it is not receiving the attention it deserves.

In reviewing the literature we have been impressed with the comparative lack of uniformity in technic employed by different writers. Roger and Levy-Valensi diluted the sputum with equal volume of water, Lesieur and Prirez used one volume of sputum to four volumes of normal saline solution, and various other dilutions have been employed. Acetic acid, either quantity or strength not stated, has been used to coagulate the mucin. The method and reagents employed to determine the presence or absence of albumin are too numerous to mention. The personal equation in a test of this nature also is perhaps no small factor in producing variable results. In 1912, B. O. Works[1] proposed a quantitative method for determining albumin in sputum which is undoubtedly a step in the right direction. He coagulated the mucin in the sputum with 3 per cent. acetic acid, diluted to 33⅓ per cent. with distilled water, filtered and determined the albumin in an Esbach albuminometer. In our opinion the quantity of acetic acid should be specifically stated, as an insufficient quantity gives incomplete separation of mucus and an excessive quantity disintegrates the leukocytes and prevents proper separation of pus proteins. We also regard Esbach's reagent as an improper test for albumin in a mixture so complex as the average sputum. In many instances a precipitate is produced with this reagent when true albumin can be shown to be absent. Picric acid, the active ingredient of Esbach's solution, is a general alkaloid reagent. It precipitates with peptones, urates, creatinin and other bodies not affected by potassium ferrocyanid. Works found that his method gave albumin reaction with normal saliva, a fact we have repeatedly been able to confirm.

During the past two years we have been experimenting with a method for the quantitative determination of albumin which appears to give satisfactory results. A quantity of sputum, not less than 10 c.c., is collected in a dry receptacle in the usual way. (Samples containing blood should be rejected, as blood invariably contains albumin.) After smears for microscopic examination have been made a quantity of sputum not exceeding 10 c.c. is poured into a 50 c.c. graduated glass-stoppered cylinder. To this is added three times its volume of water containing 1 per cent. acetic acid, diluting the sputum to 25 per cent. After vigorous shaking with the stopper in place, the mixture is filtered through filter paper directly into a graduated centrifuge tube and 10 c.c. collected. To this are added 5 c.c. of 5 per cent. solution of potassium ferrocyanid in water and the tube whirled in a centrifuge for five minutes at average speed. The amount of albumin is most conveniently recorded in volume per cent., each 0.1 c.c. on the tube being 4 per cent. by volume after correcting for the original dilution. Absolute accuracy is impracticable in this work, so only approximate results should be recorded. If desired, the volume per cent. may be calculated to weight per cent. according to the method of Purdy for urinalysis.

At the time of this writing we have employed the above-described methods on something over five hundred sputa, including routine examinations and selected cases. The findings from 337 consecutive specimens taken in the summer and fall of 1913 are given in the accompanying table.

SPUTUM EXAMINATIONS

Tubercle Bacilli	Present	Absent
Albumin Reaction—		
Absent	1*	143
Below 2 per cent. by volume	6†	14 (1‡)
Between 2 and 5 per cent. by volume	4	16
Between 5 and 10 per cent. by vol.	6	24 (2‡) (1¶) (1§)
Between 10 and 25 per cent. by vol.	(1‡)28	34 (3‡) (2§)
Between 25 and 50 per cent. by vol.	34	13 (1‡) (1§)
Above 50 per cent. by volume	13	1
Totals	92	245

* Sample unsatisfactory. Patient died before another could be secured.

† Two were from improved cases. One showed both albumin and tubercle bacilli negative the following month. The other was lost track of Other four were mostly saliva.

‡ Contained blood.

¶ Case of pneumonia complicating pharyngeal diphtheria; adult.

§ Tubercle bacilli subsequently found.

Our experience indicates that potassium ferrocyanid when employed according to the method recommended does not produce a precipitate with normal saliva or gastric juice. Secretions from rhinitis, pharyngitis, bronchitis, asthma and other superficial inflammations of mucous membranes have given uniformly negative results. We have found many specimens of highly purulent sputum even with markedly disintegrated pus-cells to give absolutely negative albumin reaction by this method. On four occasions sputa have been examined shortly before and shortly after the first appearance of tubercle bacilli on microscopic examination, and the amount of albumin found to be substantially the same, indicating that the quantity of albumin is independent of the presence or absence of tubercle bacilli. Likewise, cases that have previously shown tubercle bacilli present have shown negative albumin and absence of tubercle bacilli with apparent recovery.

CONCLUSIONS

We agree with other workers that:

1. The presence of albumin in sputum indicates that it is not a superficial secretion but usually comes from some deep-seated inflammatory process.
2. Albumin is present in practically all sputa of tuberculous origin and that the amount bears some relation to the activity of the disease.
3. Persistent absence of albumin or its presence only in traces excludes tuberculosis as the source of that sputum. In our experience with the method described this is true in a large percentage of the cases examined.
4. The determination of albumin in sputum is one of the most important aids to the diagnosis and prognosis of tuberculosis that has been introduced in recent years. The simplicity of the method commends itself to the general practitioner as a routine office procedure. It is as easily carried out as is the determination of albumin in urine and is of greater importance.

A Social Ideal.—The substitution of solicitude for the race, as a motive, for desire for present and personal advantage, is the most important ethical product of civilization.—Henry B. Favill, M.D., in Louisville *Jour. Med. and Surg.*

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[1] Works, B. O.: The Quantitative Examination of Albumin in the Sputum in Pulmonary Tuberculosis, The Journal A. M. A., Oct. 26, 1912, p. 1537.

THE DIET IN GASTRIC ULCER AND HYPERCHLORHYDRIA *

JOHN BENJAMIN NICHOLS, M.D.
WASHINGTON, D. C.

There are three main methods of treatment of gastric ulcer: (1) the surgical method, (2) the duodenal feeding method, and (3) the hygienic-dietetic-medicinal method, each having its own appropriate field of employment. The relative merits of these methods, and the considerations which guide in the selection of one of them in given cases, it is not proposed to discuss in this paper. Even if the surgical and duodenal methods possess advantages in the way of certainty and celerity of results, it is likely that there will always be patients who will decline or defer resort to these methods, or are so circumstanced as to necessitate a trial of ambulant treatment, or with whom for various reasons hygienic, dietetic, and medicinal treatment will be adopted.

In the medical treatment of gastric ulcer the necessary hygienic and medicinal measures may in importance equal or even exceed the dietetic regimen. Rest in bed, prolonged for a sufficient period, is especially of the greatest service and in many cases is absolutely essential to the attainment of a medical cure. Medicinal treatment, such as the use of astringents like bismuth or silver nitrate, of alkalies, of analgesics like orthoform or codein, and other remedies, is also an essential concomitant of the dietetic treatment. It is not purposed to consider those concomitant measures or the treatment of complications in this paper, which is to be devoted to a discussion of the physiologic and therapeutic principles that may guide to the selection of a rational diet in those cases of ulcer of the stomach and hyperchlorhydria in which this line of treatment is adopted.

A dietary regimen which has been extensively employed in this condition is that of Leub, more or less modified. This system begins with a period of fasting or great restriction of food, followed by gradual increase in the amounts given. Milk is the staple of this diet, along with soups and broths; eggs, carbohydrate food, and meat are gradually added later. The intervals between feedings recommended by different authorities range from as short as one hour up to several hours. The object of the restricted diet is to afford rest and freedom from irritation to the ulcer by minimizing gastric activity and dyspeptic conditions.

The dietary introduced by Lenhartz[1] in 1903 has also attracted much attention. This diet consists of milk and eggs, to which sugar, meat and carbohydrate food are early added. The daily amount of food is rapidly increased from a small allowance to an adequate maintenance ration. The object of this more ample regimen is to promote the general nutrition, while its abundant protein by entering into combination with the excessive hydrochloric acid of the gastric juice is supposed to neutralize or inactivate the latter.

Another diet, the fatty diet, has been introduced, but as yet has attained only a limited use.

It is my opinion (possibly presumptuous) that much of the current dietetic practice in gastric ulcer is based on fallacious grounds, and that a consideration of certain well-established physiologic facts will afford a definite guide to the adoption of a rational diet for this condition.

There are some factors in the causation and treatment of ulcers of the stomach corresponding to those of ulcers elsewhere; and some etiologic factors that are still obscure; but there is one factor peculiar to this condition that is of the utmost importance in its etiologic and therapeutic bearings, namely, the digestive properties of the gastric juice. Whatever the other determining conditions, it is clear that the corrosive action of the gastric secretion is a potent factor in producing and maintaining peptic ulcers. The high acidity characteristic of the gastric juice in cases of ulcer, whether it be cause or effect, is significant of this causative action. In addition to the indications that apply in the treatment of ulcers in general, such as rest, avoidance of irritation, promotion of nutrition, etc., we therefore have as a fundamental and peculiar object in the treatment of gastric ulcer the reduction to a minimum of the acidity and digestive power of the gastric juice.

The secretion, composition and potency of the gastric juice vary definitely and markedly under the influence of various dietetic conditions, thus enabling us to arrange a diet calculated to effect a maximum reduction of its elements.

Ordinarily gastric secretion takes place only in response to the ingestion of food. When there is no food in the stomach there is no gastric juice, and hence during the fasting period an ulcer would be free from its corrosive action. Duodenal feeding enables the gastric secretion to be thus suppressed for an indefinite period. Excepting by this method (rectal feeding being ineffective) intragastric alimentation can be dispensed with harmlessly only for a few days. In gastric ulcer a preliminary period of complete fasting can be carried out for a few days; when feeding is instituted, it seems rational that the intervals between feedings should be made as long as possible, in order to gain the longest practicable periods of freedom from the action of the gastric secretion.

After the ingestion of food, as shown by Pawlow,[2] the flow of gastric juice takes place in two stages and under two sets of influences; first, a flow starting immediately, due to psychic influences; and, second, another flow starting fifteen to forty-five minutes later, due to chemical stimulation (hormone action) by certain of the foodstuffs.

The psychic influences which initiate the flow of the gastric juice are the appetite and an eager desire for food. These influences act independently of the chemical character of the food taken, and may operate even in the absence of actual swallowing of food. Theoretically, therefore, it would be rather an advantage in treatment of gastric ulcer to employ articles of food that are not especially tempting or appetizing, as thereby a lessened primary flow of gastric juice is excited.

The secondary stimulation of gastric secretion, which begins about fifteen to forty-five minutes after the ingestion of the food, is dependent definitely and markedly on the chemical character of the food materials. Some foodstuffs greatly increase the amount and potency of the gastric juice secreted at this period, some lessen it, some are indifferent.

The substances which have been found active in stimulating the secondary flow of gastric juice are water, impure peptones, meat extractives and caffein. Water does not act in small amounts, but in quantities of 400 or 500 c.c. it evokes a considerable gastric secretion. Meat extractives, as in soups, broths, bouillon, beef tea,

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* Read before the Medical Society of the District of Columbia, Oct. 1, 1913.

[1] Lenhartz, H.: Deutsch. med. Wchnschr., 1904, xxx, 412.

[2] Pawlow, J. P.: Work of the Digestive Glands, second English ed., 1910.

meat juices, meat, etc., are active excitants of the flow of a potent gastric juice. The products of protein digestion also chemically excite secretion by the stomach; native proteins, such as white of egg, lack this power, but when their digestion is once started by the primary psychic or appetite juice, the digestive products so formed further stimulate secretion. Beverages and solutions containing caffein have been found by Moore and Allanson[3] to cause (in general) a marked increase in the hydrochloric acid content, total acidity, and digestive power of the gastric juice one hour after ingestion, as compared with the controls: coffee acted most strongly, tea next, cocoa least. According to Pawlow, soaps formed from fat in the food also stimulate gastric secretion.

The amount and duration of gastric secretion are of importance as well as the acid content and peptic power. In experiments on dogs Portis[4] found that on a meat diet the total amount of gastric juice secreted and the duration of the secreting period were three or four times as great as on a vegetable diet. Milk gave a time slightly longer than the vegetable diet, but much less than the meat feeding.

The bearings of these facts on the treatment of peptic ulcer are obvious. Water should be allowed in limited quantities only, not more than 250 c.c. (8 ounces, or one glass) at any one time. Coffee, tea and cocoa should be excluded. Soups and similar preparations rich in meat extractives from their lack of nutritive value are not only useless, but from their powerful stimulating effect on gastric secretion would seem to be absolutely contraindicated. Meat, it would seem, should be avoided, and protein food in general reduced to a minimum. The practice of giving protein food with the view of its neutralizing the gastric juice would appear to be fallacious and disadvantageous, since this kind of food causes a maximum flow and potency of gastric juice and increases the free hydrochloric acid, which will act on the ulcer as well as on the material that called it forth.

Some ingredients of the diet are without any specific chemical effect on gastric secretion, such as carbohydrate material. Ingestion of sodium chlorid or of hydrochloric acid causes no flow of gastric juice or increase of its hydrochloric-acid content (Floersheim[5]). Organic acids (acetic, citric, lactic, butyric) have been found (Foster and Lambert[6]) to cause *no increase of gastric secretion;* the acidity of fruits *would therefore not be objectionable* in gastric ulcer.

Among substances that inhibit gastric secretion may be mentioned sodium bicarbonate; weak solutions (0.05 to 1.0 per cent.) of this substance evoke no secretion of gastric juice in amounts that would be effective if water alone were taken.

The greatest practical importance in this respect attaches to the *influence of fat, which has been clearly* shown by Pawlow *and others to cause a marked lessening* of gastric secretion, as compared with meals otherwise *identical containing no fat.*

Pawlow[2] found that when meat is given one-half to one hour after introducing large amounts of olive oil into a dog's stomach, the primary psychic flow of gastric juice is abolished, and the subsequent gastric secretion is very much retarded and greatly diminished in amount and potency. A similar result is obtained when the fat is given immediately after the meat, except that the psychic flow begins in the usual five minutes, the inhibitory influence of the fat appearing later. The effect of the oil continues for two or three hours, after which an increase in gastric secretion may take place. The formation of soaps may produce a late stimulation of gastric secretion.

Moore and Ferguson[7] in comparative tests in sixty-one cases (including twenty-nine of peptic ulcer) found that *the total acidity, hydrochloric acid, and digestive power* of the gastric juice, determined one hour after eating, were in the general average reduced about one-third when the test-meals were preceded half an hour by an ounce of almond oil.

Cowie and Munson[8] in their investigations found that olive or cotton-seed oil given in quantities of one or more ounces half an hour before the meal as a rule caused a reduction (averaging about a third) of the hydrochloric acid and total acidity of the gastric juice (as determined after the usual test period of one hour). When the oil was given after or just before the feeding the effect was much less. The reduction corresponded to the quantity of oil given, larger amounts usually causing a greater inhibition. The oil delayed the beginning of the secretion of gastric juice, and retarded the height of secretion, so that although the acidity was less with oil after sixty minutes, it frequently increased later, often reaching a maximum as great as that of the control. The oil tended to retard the motility and evacuation of the stomach and prolong the period of digestion.

The fat content of milk also has an inhibitory effect on gastric secretion. Test-meals containing milk bring about the secretion of a gastric juice with a less hydrochloric acid content and lower peptic activity (after one hour) than meals containing the same amount of water instead. This effect is proportionate to the amount of fat in the milk; cream causes a greater reduction than whole milk, while skimmed milk is least effective (Pawlow[2]). The total acidity of the gastric contents after milk is, however, considerably greater than after other foods. This is apparently due to the lipolytic action of the gastric juice splitting the milk fat and setting free fatty acids, which increase the total acidity. The fat-splitting action of the gastric juice is most effective on fat in a state of fine subdivision (as in milk); it has little effect on fats or oils in bulk, which are very little changed in the stomach.

As to the way by which oil lessens peptic activity, Pawlow holds that it acts by reflex nervous inhibition of the secretory mechanism (as evidently occurs in the abolition of the psychic juice). Others believe that in addition there is some mechanical interference with the secretory stimulation caused by the oil forming a coating over the gastric mucosa and the food masses. Reflux of duodenal contents into the stomach has also been suggested as having some effect.

Other properties possessed by fat that are of importance *in connection with its use* in the dietary of gastric ulcer are: its high caloric value; its local sedative properties; its relaxing effect on pyloric spasm, and its laxative *action.*

Investigations of the inhibitory influence of drugs on gastric secretion have been very scanty. Portis[4] obtained little effect from scopolamin or opium; the only drugs

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3. Moore and Allanson: Proc. Roy. Soc. Med., London, V, Medical Section, Nov. 28, 1911, 19.
4. Portis, M. Milton: Louisville Month. Jour. Med. and Surg., 1908-9, xv, 230. Illinois Med. Jour., 1909, xv, 267. Lancet-Clinic, Cincinnati, 1909, ci, 9; The Journal A. M. A., Sept. 28, 1912, p. 1154.
5. Floersheim, S.: Med. Rec., 1912, lxxxi, 1089.
6. Foster and Lambert: Jour. Exper. Med., 1908, x, 820.
7. Moore and Ferguson: Proc. Roy. Soc. Med., London, III, Medical Section, Nov. 23, 1909, 25; Lancet, London, Dec. 11, 1909, p. 1737.
8. Cowie and Munson: An Experimental Study of the Action of Oil on Gastric Acidity and Motility, Arch. Int. Med., January, 1908, p. 61.

which he found effective were belladonna (especially before meals), and bromids (preferably in large doses and before eating, the strontium salt most effective). Hydrogen peroxid has been asserted by a number of observers to cause a reduction in hydrochloric acid secretion; it may be given in teaspoonful doses in a glass of water after meals, and is stated to be beneficial in hyperchlorhydria, though less so in ulcer (Hall[9]).

All the foregoing physiologic considerations have obvious, or at least theoretical, bearings on the dietetic treatment of both gastric ulcer and hyperchlorhydria, which may be thus summarized: The intervals between feedings should be made as long as possible, food being given preferably not more than two to four times a day. The diet should be as little appetizing, tempting and palatable as is practicable. Soups, broths and other preparations of meat extractives should be absolutely forbidden. Meat is to be excluded and protein food reduced. Coffee and tea should be avoided. Water should not be drunk in large amounts, not over 250 c.c. or 8 ounces at one time. Alkaline drinks, however, may be more freely taken. Carbohydrate food is permissible. Oil should be taken half an hour before meals, or the diet should contain a large amount of fatty material.

The fatty diet for gastric ulcer is grounded on these principles. While it has not yet come into extended use, the actual results obtained by those who have employed it have demonstrated its efficiency. No form of dietetic treatment will cure or ameliorate more than a certain proportion of ulcer cases; and good results are obtainable by diverse systems of feeding. There are no statistics by which the relative effectiveness of the fatty diet as compared with the Leube or Lenhartz methods can be estimated, but it is rational in theory and in practice it is capable of yielding satisfactory results in many cases.

In practice two forms of fat are mainly used, namely, (1) vegetable oils, such as olive oil, almond oil, cottonseed oil; and (2) milk fat, as in the form of cream.

In using vegetable oil, the best results would seem to be obtainable by giving it in quantities of an ounce or more a half hour before meals; with it is given a simple carbohydrate-fat diet. A number of writers have reported satisfactory results from this method. Oil thus given is, however, apt to become very tiresome and distasteful. As a variant method of administration it may be given made up in mayonnaise dressing, in which form it may be more acceptable and may be generously used as an ingredient of the diet.

The use of cream as the sole or chief ingredient of the diet is another plan that has found favor. The high caloric value of cream makes it one of the most valuable of dietetic articles for building up body weight and strength. One quart (four glasses) of cream a day yields about 1,800 calories, which alone is sufficient for many small-sized persons leading the quiet lives of invalids. (For a person weighing 100 pounds 1,800 calories is equivalent to 2,700 calories for a person of the standard wieght of 150 pounds.) A quart of cream, it is true, contains only about 25 gm. of protein; but 20 gm. more of protein would be furnished by the addition of, for instance, 600 c.c. of milk, or 220 gm. (six slices) of bread, or 230 gm. (five tablespoonfuls) of oatmeal gruel (cooked with milk), or three eggs. With cream as a basis an ample dietary can be arranged on which the body-weight will be maintained and even increased. The richness of cream in fat effects a marked inhibition of gastric secretion, and adapts it preeminently for use in peptic ulcer. Cream is less constipating than milk. It may cause acid gastric indigestion from the splitting of its fat by the lipolytic action of the gastric juice; but in my experience this troublesome effect usually disappears after a few days' persistence in the diet. Some patients cannot comfortably take cream as an exclusive and continued diet; yet in general it is better tolerated than might be expected, and if it causes no great disturbance there is no disadvantage in its not being especially relished. If not tolerated in full strength, the cream may be given diluted with an equal or greater amount of milk. The use of corresponding amounts of ice-cream in place of plain cream is a useful variant method of administration, which may be adopted *ad libitum;* and it is significant that unexpected benefit from the use of ice-cream in gastric ulcer was empirically noted before its physiologic rationale was elucidated.

My personal experience with the fatty diet in gastric ulcer covers about twenty-six cases. Not then aware of the published work along these lines, I was led by theoretical considerations to the conclusion that an abundance of fat with restriction of protein was the proper diet for this condition, and fixed on cream as a suitable foodstuff. In these cases cream was employed as the basic ration, ordinarily 1½ to 2 pints daily, divided into three or four feedings. Some patients were started with the full amount of cream, some with smaller amounts gradually increased, some with an initial fasting period. At first the cream was used alone; later were added cereal, bread, puddings, other vegetable food, eggs, etc.; oil (before or with meals), butter, mayonnaise dressing, and the like, were generously introduced into the dietary. Whenever desirable the cream was given diluted with milk, or in the form of ice-cream. Meat and soups were allowed last of all. The usual concomitant measures, such as rest in bed when feasible, astringents, alkalies, analgesics, etc., were employed as indicated.

During the first few days of the cream treatment troublesome dyspeptic symptoms (nausea, gas, acidity, etc.) often developed, frequently as severe as any the patients had ever experienced, and causing much discomfort and discouragement. This was probably due to the setting free of large amounts of fatty acids by gastric lipolysis. If the cream was persevered in these symptoms usually subsided, tolerance was established, and the diet was borne comfortably and contentedly.

The diversity of results characteristic of the treatment of gastric ulcer was observed in this series; some patients recovered, others were partially or temporarily relieved, some were unimproved. Some marked cases, including one with profuse repeated hemorrhages, progressed to good recovery, though two or three months or more of treatment, with many weeks in bed, were sometimes required to effect this result. The method is adapted to ambulant treatment, and seems a rational treatment for simple hyperchlorhydria as well as ulcer. It was also found to be of prophylactic service, as dyspeptic symptoms suggestive of recurrence of ulceration in treated cases usually promptly subsided after a few days' resort to cream diet. Although this series was too small for any very weighty deductions, the impression which I have formed of the results of the fatty diet has been favorable, and I believe that it is a rational and efficient method of dieting for gastric ulcer.

Beginnings of Modern Medicine.—There is not a single development, even the most advanced of contemporary medicine, which is not to be found in embryo in the medicine of the olden time.—Littré, Introduction to the Works of Hippocrates.

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[9] Hall, G. W.: Boston Med. and Surg. Jour., 1911, clxiv, 816.

THE FOREIGN-BORN INSANE

A RACIAL STUDY OF THE PATIENTS ADMITTED TO THE INSANE DEPARTMENT OF THE PHILADELPHIA GENERAL HOSPITAL IN TEN YEARS (1903-1912)*

CHARLES W. BURR, M.D.
Professor of Mental Diseases, University of Pennsylvania, Department of Medicine
PHILADELPHIA

I purpose briefly to discuss the question of the alien insane in the United States using for data the number of native and foreign-born who were admitted to the insane department of the Philadelphia General Hospital (Blockley) during the decade from 1903 to 1912, inclusive. I should perhaps state that Blockley is the county hospital of Philadelphia, and that to its department for the insane are sent all indigent persons living in the city who become mentally ill, except a few who are admitted to the psychopathic wards (separate from the insane department in a legal sense, though situated on the same piece of land), and later deported or transferred to other hospitals without passing through the insane department. The number received in the psychopathic wards and not later transferred to the insane department is not large enough to influence the percentage to any great extent; but as my statistics are made up from the admissions to the insane department alone, the number of foreign indigent insane in the city is a little larger than my figures indicate.

There are also in the city two semipublic hospitals for the insane which receive, for short periods, a few charity patients, few of whom, however, are foreigners. These institutions receive a somewhat larger number of patients who are able to pay for a short time, but who are finally sent either to the Philadelphia General Hospital or to a state institution. It is alleged, but I personally know of only a few instances, that occasionally the relatives of immigrants who become ill soon after coming here send them to private institutions and support them long enough to make it practically impossible to deport them, unless they or their relatives desire it, which they never do, and then have them transferred to a state institution or to Blockley. Though some of the foreign-born insane at Blockley pay some board, the amount paid is so small and the number who pay so few that practically all may be regarded as indigent.

There are doubtless some mistakes in the statistics I present, but none of them leads to serious error in the conclusions drawn. Thus fifty patients are recorded as having been born in Poland, the recorder seemingly being of the opinion that Poland still flourishes as a political entity. The real explanation is that persons coming from either Russian or Austrian Poland, and less frequently those from German Poland, speak of themselves as Poles, and of course racially are such. In a few instances a man is credited to the country of his birth, though he does not belong to any of the races native to the country in which he happened to be born, and in a few others the mother was of one country and the father of another, in which case the paternal country is recorded. Some European countries, notably Russia, Austria and Germany, contain many races. In the hospital records only the country of birth is recorded, not the race. Hebrews are not recorded as such in the admission book, but only in the individual histories. They are here credited to the lands in which they were born. No attempt is made in this paper to distinguish the different races in any country, but all persons born in Germany are regarded as Germans, those born in Russia, Russians, and so on. All the errors of all kinds combined do not influence in any way the main conclusion that a startlingly large number, 44 per cent., of the indigent insane in the Philadelphia General Hospital are foreign-born. I have no statistics as to how many of them are politically aliens, that is, not citizens. No data are obtainable as to how long many of them have been in this country; but quite a large number, especially among the Irish, English and Germans, have been here many years, while most of the Russians, Italians, Roumanians and Hungarians are recent acquisitions.

The figures on which the paper is based are as follows: The total population of Philadelphia in 1900 was 1,293,696, and in 1910, 1,549,008. The foreign-born population in 1900 was 293,669, and in 1910 it was 382,578, of which 193,994 were males and 188,584 were females. The percentage of foreign-born in 1910 was 24.7; of white native-born, 69.8, and of negroes 5.5. The negro population in 1900 was 62,613; in 1910 it was: males 39,431 and females 45,028, making a total of 84,459.

The total (sane and insane) foreign-born population in 1900 and 1910 is given in Table 1 (I have omitted countries from which no or only a small number of insane persons came). It is noteworthy that the number of Irish, English and Germans decreased in the ten years. The falling off in the number of Chinese is not hard to understand. All the figures were taken from the thirteenth census of the United States.

TABLE 1.—SANE AND INSANE FOREIGN-BORN POPULATION IN 1900 AND 1910

Countries	1900	1910
Austria	6,893	19,859
China	1,165	997
England	36,726	36,530
Germany	73,040	61,467
Hungary	2,781	12,459
Ireland	98,385	85,187
Italy	17,829	45,308
Japan	12	93
Russia	33,111	90,696
Scotland	8,477	9,174
Sweden	2,143	2,420
Switzerland	1,707	2,013

The statistics concerning the insane admitted to the hospital are as follows: During the years 1903 to 1912, inclusive, there were admitted 4,897 males and 3,849 females, a total of 8,746. Of these, 2,052 were foreign males and 1,837 foreign females, making a total of 3,889 foreign-born patients, which is 44.5 per cent.

The foreign-born insane (excluding countries sending only a few) came from the countries given in Table 2.

TABLE 2.—THE FOREIGN-BORN INSANE

Countries	Males	Females	Total
Austria	111	75	186
England	162	142	304
Germany	429	315	744
Hungary	58	50	108
Ireland	499	741	1,240
Italy	187	114	301
Poland*	26	24	50
Roumania	14	17	31
Russia	306	251	557
Scotland	30	42	72
Sweden	17	16	33
Switzerland	23	12	35

* This includes Austrian, Russian and German Poland. Many Poles are listed under the country in which they were born. The country of birth of the fifty is unknown. Most of them probably are Russians.

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* Read at the meeting of the Philadelphia Psychiatric Society, May 9, 1913.

The classification by color is given in Table 3. All persons known to have negro blood are recorded as negroes, even though there may be a large admixture of white blood.

TABLE 3.—CLASSIFICATION BY COLOR

Races	Males	Females	Total
Caucasians	4,421	3,412	7,833
Negroes	457	437	894
Mongolians	19	0	19

I have not given the table showing the number of patients from each foreign country admitted to the hospital each year of the decade, because it is not of enough value; but I wish to make some quotations from it. The yearly figures would be of great value if we knew the yearly fluctuations in population, not during the last ten only, but throughout the last fifty years; but the only dependable statistics we have are those of the United States census, which is decennial. There is no way of finding out the racial character of the population year by year. The tables of arrivals of immigrants by ship is of no value, because an unknown number immediately move to other places, and, on the other hand, an unknown number come here from other parts of this country.

It must be remembered that insanity occurs not only in recent immigrants, but also in foreigners who have lived here many years, though I have been much impressed of late years by the number of recent young immigrants who become insane; but I have no data concerning the percentage. There is no close relation between the number of immigrants from any given country in any one year and the number of insane from the same country admitted to Blockley in that year. Some conclusions, however, can be drawn from the yearly tables. Thus there were 22 men and 13 women admitted from Russia in 1903; in 1912 there were 42 men and 28 women. The number varied in the intervening years, but on the whole the curve tended upward. There has been a pretty constant increase in the Russian immigration each year, and, since the death-rate is less than the number of new arrivals, there has undoubtedly been a yearly increase in the number of Russian residents, so that it is natural that the number of the insane should increase.

When we consider Italy we find that while the number of its people living in Philadelphia increased from 17,829 in 1900 to 45,308 in 1910, the number of admissions to Blockley varied greatly from year to year, the greatest number being 44 in 1907, and the smallest, 24, in 1908. In 1912 there were 41.

England and Ireland, which represent an older layer of immigration than Russia or Italy, have pretty flat admission curves for the decade. In both instances the insanity curve will probably soon begin to fall, and then fall rapidly, unless, which is improbable, there should be a new wave of immigration from these countries.

Hungary, considering the small number of its people living here, makes a very bad showing—108 patients. Of course, however, in interpreting these figures it must be remembered there is no way of determining what percentage of the Hungarians who have lived in Philadelphia during the past ten years have become insane, because we do not know how many have lived here in that time; we only know the number for the first and tenth, but not the intervening years. I suspect, but am not sure, that quite a number of Hungarians living in other parts of the state, and indeed of the country, are sent to Philadelphia by their friends as soon as they show signs of becoming ill. This, in a small degree, decreases the percentage of the insane Hungarians in other counties and states, and correspondingly increases the rate in Philadelphia. As the same data are lacking for all countries we can properly draw conclusions as to certain matters concerning all, and in doing so, Hungary does not stand well. Russia gives the greatest number of all foreigners, sane and insane, living in the city in 1910; Ireland ranks second, and Germany third. Of the foreigners in the hospital, Ireland gives the greatest number, Germany is second and Russia third. I do not think that from this one can draw the conclusion that the Irish, under altered conditions of life in a foreign country, are more prone to insanity than the inhabitants of the Russian Empire. In the first place, the numbers we are dealing with are entirely too small to be of any use in the study of the racial frequency of disease, and in the second place, many Irish have lived here long enough to suffer from senile insanities, while the Russian is a newcomer, and the majority of immigrants from that country are still young.

The frequency of insanity in a race in its own home may be very different from that occurring in the same race in a foreign country, so that no conclusion can be drawn from my figures as to the relative susceptibility of different races in their home environment. The figures in Philadelphia are too small in any event, and even if we had accurate statistics covering the entire country, it would not be justifiable to draw conclusions as to racial susceptibility, except under the conditions in which the different races are now living. For example, I am quite sure, though I cannot prove it mathematically, that I have seen a large number of young Russian Jews in whom the exciting cause of disease was the total change in their environment: homesickness, inability to speak English, living in a large city instead of a small town or the country, the hurry of life and the intensity of work all act as exciting causes. Many of these persons, I believe, could, at home, have passed through life escaping all mental disease. It is, therefore, quite possible that the insanity-rate is higher among the Russian Jews here than in Russia. I am entirely incompetent to express an opinion as to whether or not the alleged persecution of Jews in Russia takes the place of the exciting causes of insanity existing here, and keeps the frequency of occurrence at the same level in both countries. Several races seem, however, to be mentally and emotionally much more adaptable to American life than the Russian Jew.

The important question for us as a nation is whether we should let things continue as they are or should do more than is being done to keep out the insane and to return to their native countries aliens who become insane. We are told by gentlemen who make political speeches in parts of the country in which there is a large foreign voting element that our national digestion is so strong that no evil can come by keeping our doors wide open for everybody. We hear much about being a haven for the oppressed, etc. We are told by the pessimists that we are "going to smash anyway," so there is no use doing anything. We are told by the disciples of "the uplift" that if we only send everybody to school and have plenty of laws to lift everybody up all evil will disappear. Probably none of these statements is true. Whether we can digest the foreigners or not, there is no reason why we should make our burden any heavier than we must. It is our duty to take care of the naturalized foreigner if he becomes unable to care for himself; it is his right as a citizen.

That we owe such duty to the alien no one believes, save those persons who have become so modern as to believe, and not only profess to believe, that it is our duty to relieve other people of their duty, a kind of morality which to the old-fashioned seems highly immoral and ultimately leading to degeneracy of the helped. If, however, an alien has been here for some years, has worked, and has in a sense become one of us, we ought, I presume, to care for him. To-day he cannot be deported if he has been here only a few years. Surely it would be better to deport all aliens who become insane within five years of their arrival, no matter what the cause.

I am told, whether correctly or not I do not know, that this would necessitate the abrogation of treaties with several countries; but if it be true, certainly we—who abrogated a treaty with Russia simply because she claimed the right of deciding what persons could pass her borders, a right which we ourselves claim and rigidly enforce when we want to, professedly on the highly sentimental ground that a certificate of American citizenship should open all doors—would be justified in abrogating treaties which compel us to take care of the mental wreckage properly belonging to other countries.

It is sometimes stated, but not proved, that since insanity is no more frequent among the foreigners than among the native-born we are no worse off by admitting and keeping them than if we refused to receive and expelled them. After all, it is said, healthy foreigners, by building up the country, pay for the upkeep of their insane. If it were not easily practicable largely to exclude the insane and degenerate, then of course it would be better to admit them than to prohibit all immigration. But that is not the question, because it is entirely possible to welcome the one while excluding the other. The fact still remains, no matter how much we may try to forget the inevitable effects, that in Philadelphia a foreign-born population of 21.7 per cent. supplies 44 per cent. of the indigent insane, and the same proportion approximately is found in all large asylums in all parts of the country to which immigrants go in large numbers.

1918 Spruce Street.

A CASE OF MULTIPLE SEROSITIS AND REPORT OF NECROPSY

WITH REMARKS ON TWO CASES, APPARENTLY EARLY INSTANCES OF THE SAME CONDITION

SOLOMON SOLIS COHEN, M.D.
Professor of Clinical Medicine, Jefferson Medical College, Physician to Jefferson Hospital and Philadelphia General Hospital

AND

R. MAX GOEPP, M.D.
Professor of Clinical Medicine, Philadelphia Polyclinic; Assistant Professor of Clinical Medicine, Jefferson Medical College; Assistant Physician to Jefferson Hospital and Philadelphia General Hospital

PHILADELPHIA

Of the many names that have been proposed for the condition discussed in this report, we have selected "multiple serositis," because it is descriptive and at the same time sufficiently short and convenient for practical purposes. A. O. J. Kelly, whose contributions on this subject are among the best in American literature, preferred the Greek term polyorrhymenitis (πολυς many + ὀρρος serum + ὑμην, membrane). "Malignant inflammation of serous membranes," or "Concato's disease," is open to criticism on account of the conventional association of the word "malignant" with a cancerous process, while some of the other designations, particularly "general chronic perihepatitis," "sugar-iced liver" (*Zuckergussleber*—Curschmann), "pericarditic pseudocirrhosis of the liver" (Pick's disease) are not sufficiently comprehensive and lay too much stress on the hepatic and pericardial features, to the neglect of the other serous membranes.

A convenient working classification divides the cases into (1) those exhibiting chiefly perihepatitis (Curschmann's *Zuckergussleber*), in which the peritoneum as a whole is the primary seat of disease; and (2) cases beginning as a pericarditis, in which the process spreads later to the peritoneum and may or may not involve the covering of the liver (Pick's pericarditic pseudocirrhosis, adherent pericardium). Clinically it is not usually possible to determine which organ was the primary seat of disease. In the case here reported, the pleural and peritoneal cavities were both extensively involved and there was also adhesive pericarditis. The symptoms, however, were predominantly cardiac, during the entire course of the malady, which extended over three years, and although this was in part owing to degenerative cardiovascular changes not necessarily connected with the serous membrane inflammations, the case may be classified in the pericarditic group. The report of the case follows:

History.—J. G., an unmarried Irish blacksmith, aged 43, was admitted to the wards of the Philadelphia General Hospital, Oct. 10, 1912. The chief complaint of the patient on admission was shortness of breath, cough, and swelling of the legs and abdomen. The patient bore all the marks of an alcoholic, and admitted having been a heavy drinker. He had had measles, mumps, whooping cough and smallpox. Eleven years before admission he had had an attack of rheumatism. Gonorrhea had been contracted about fifteen years before admission, and syphilis at some earlier time. No information of importance in regard to the family history was obtained. During the past thirteen years the patient was treated in the Philadelphia General Hospital eight different times, but had not, prior to the last admission, come under our observation. The dates of admission and discharge, and the recorded diagnoses, are as follows:

Jan. 5, 1904, to Feb. 1, 1904. Inflammation of penis and prepuce.

April 5, 1904, to April 11, 1904. Alcoholism.

Oct. 8, 1909, to Nov. 15, 1909. Pulmonary tuberculosis.

May 4, 1910, to June 28, 1910. Acute gastritis.

October 4, 1910, to June 26, 1911. Aortic regurgitation, mitral regurgitation, specific aortitis.

Sept. 8, 1911, to Sept. 27, 1911. Hepatic cirrhosis with ascites.

Oct. 9, 1911, to June 13, 1912. Aortic valvulitis, relative mitral regurgitation, cirrhosis.

Oct. 9, 1912, to Nov. 20, 1912. Multiple serositis and hypertrophic cardiac dilatation, aortic aneurysm or dilatation, relative aortic incompetence.

On admission to our service Oct. 9, 1912, the patient was orthopneic and markedly cyanotic. The abdomen was much distended with fluid, the legs and scrotum very edematous. The appetite was poor and the bowels were constipated. The patient complained of distress after eating, as if "all the food he took remained in the upper part of his belly." It seemed necessary to give prompt relief, and accordingly a trocar and cannula were inserted at the level of the umbilicus, about one inch to the right of the median line, the point for puncture being indicated by palpation which showed many adhesions and thickenings in the regions in which puncture is more usually made. One gallon of lemon yellow and somewhat cloudy fluid was withdrawn. Microscopic examination of this fluid showed chiefly lymphocytes, with a few endothelial cells. The tapping greatly abated the difficulty of breathing, and the patient was enabled to lie down for the time being.

Examination.—The patient is well developed and well nourished. The skin is cool and moist, the face is bluish. The pupils are equal, regular in outline and react normally to light and accommodation. The tongue is slightly coated and shows a fine tremor when extended. The ears and lips are deeply cyanosed. The external jugular vein on the left side is very large and tortuous, the right is also tortuous but smaller; there is no visible venous pulsation. The chest is fairly well developed. There is some flattening on the right side.

The upper border of the heart is in the second interspace, the right border 1.5 cm. to right of sternum, the left border 2 cm. to left of midclavicular line, the lower border extends to the sixth interspace. The apex beat is neither visible nor palpable. At the apex, the first sound is of good muscular quality and quite clear; the second sound is replaced by an indefinite murmur. At the aortic area, the first sound is accompanied by a very faint murmur, the second sound is accompanied or almost entirely replaced by a loud ringing and churning murmur, transmitted downward along the sternum, more clearly on the right than on the left. An area of dulness is demonstrated over the upper portion of the sternum from the clavicular junctions to the upper border of the heart, extending on the left to the parasternal line. No thrill is detected. The pulse is of the water hammer type, with fair force and volume; the tension of the artery is only moderate, but sclerosis of the wall is evident. The capillary pulse is visible in the nailbed.

Anteriorly, on the left side of the chest, the inspirations are labored and harsh, as though there were some pressure on the bronchi. The expirations are prolonged and of a bronchial character. Occasionally squeaking sounds are heard. The percussion note is impaired. As far as the third rib on the right side, the breath sounds are the same as on the left; below that point and in the axillary region of the same side, inspiration is harsh and accompanied by numerous moist râles of all sizes. Expiration is of the bronchial type. Both vocal resonance and fremitus are exaggerated, and the percussion note is dull. Posteriorly, on the left side, there are a few small moist râles in the lower part of the lung. Below the ninth rib the breath sounds are absent. Over the angle of the left scapula vocal resonance and tactile fremitus are more easily detected than at the corresponding area on the right side. The resonance of the left lung is slightly impaired. In the right lung there are numerous crepitant and subcrepitant râles, beginning a little below the apex, and extending as far down as the eighth rib. Below that point the breath sounds are absent and there is flatness on percussion. Vocal resonance and tactile fremitus are absent over the flat area, both are exaggerated where the râles are most numerous, especially at the inner border of the scapula. The percussion note is impaired above the flat area.

The abdomen is very much distended. Liver dulness extends from the fourth interspace to about two inches below the costal margin in the midclavicular line. Flatness on percussion (fluid) begins about 1½ inches above the umbilicus. The scrotum is very edematous. The lower extremities are greatly swollen and pit on pressure. The skin of the legs is reddened.

Course of Disease.—Soon after the tapping made on admission, the ascites recurred. October 22 the abdomen was tapped a second time, and 5 pints of fluid were withdrawn. October 24 the right side of the chest was aspirated, and 11 ounces of fluid were obtained. The first half of the fluid was of normal color, the second half was almost pure blood.

The temperature oscillated between 97.6 and 100 F., the pulse rate varied from 72 to 100, the respirations were 20 to 35. The urine showed nothing abnormal. The fluoroscopic examination showed considerable enlargement of the cardiac shadow, with a pulsating shadow above the heart, corresponding approximately with the dull area noted at the top of the sternum.

The patient's general condition remained about the same, with slight "ups and downs," and little, if at all, influenced by drugs for three weeks after admission. November 1 a chill occurred, followed by rise of temperature and pain in the right side of the chest. The temperature reached 102.6 F. Local applications relieved the pain. The next day percussion showed that the area of dulness over the right lung had extended to the angle of the scapula. A needle was inserted at this point and a few drops of blood were obtained, but nothing else. At the same time a third tapping of the abdomen 2 inches below the umbilicus and 2 inches to the left of the median line, yielded a quart of bloody fluid. The dyspnea was somewhat relieved by this procedure. About two weeks later a trocar and cannula were again inserted 2 inches below the umbilicus in the median line, and only a few drops of blood withdrawn. After removal of the cannula the opening bled quite freely.

Fever of an irregular type persisted all this time. The patient's general condition became steadily worse, he took less nourishment and rested badly. Cyanosis and dyspnea could not be materially relieved, although oxygen palliated them somewhat. Pulse, temperature and respiration continued irregular until death, which occurred suddenly on November 20.

Necropsy.—Dr. Allen G. Ellis found the following pathologic conditions:

The body is that of a well nourished adult man. Rigor mortis is present. There is great edema of the lower extremities.

The abdomen is markedly distended and contains about 500 c.c. of grayish turbid fluid. The peritoneum shows numerous adhesions, between coils of the intestines and the abdominal wall. Most are recent and are easily separated. Some adhesions, especially around the cecum, are older. The liver projects 5 cm. below the costal margin, its capsule is thickened and presents the typical "sugar ice" appearance. The chest is a mass of adhesions which includes both pleurae, except a little of the upper part of the left, the pericardium and the mediastinal tissues. The pericardial cavity is entirely obliterated by firm adhesions. The right pleural cavity is also obliterated.

The heart is greatly enlarged particularly on the left side. The left ventricular wall is 2 cm. thick, that of the right ventricle, 1 cm. thick. The muscle is rather pale and quite firm. The endocardium is grayish, the auriculoventricular valves show no notable change. The coronary arteries are moderately sclerotic. The aorta is entirely involved by necrotic, calcareous and atheromatous patches, the valves are incompetent. Just above the aortic valves is an aneurysm 4 cm. in diameter, which bulges about 3 cm.; at its apex is a further dilatation 1 cm. deep and 1.5 cm. wide. Above this, involving the great branches of the arch, is a second bulging, smaller and less sharply defined than the first. The pulmonary artery is atheromatous, the valves are not affected.

The left lung is markedly reddened. It is filled with serum. At the base it is tightly adherent and was torn in removal. Over the lower part of the upper lobe is a slight fibrinous exudate. The right lung shows a greatly thickened pleura. At the base, between it and the diaphragm, is a cavity bounded by greatly thickened brownish red pleura, which is rough on the internal surface. It is partly filled with bloody fluid. The lower lobe of the lung is atelectatic. The upper lobe is reddened and contains an excess of serum.

The spleen is 16 cm. long, firm, dark red on incision, and contains an excess of blood. The left kidney is large, the capsule tense. When it is stripped, a granular surface appears, the incised surface is dark bluish red, and blood drips from it. The cortex is not notably changed. The right kidney has a similar appearance. The ureters and bladder show no gross lesions. The stomach shows a dark red discoloration of the mucosa, particularly intense toward the pylorus. The liver is a rounded organ, 26 cm. long, 17 cm. wide. The capsule is very greatly thickened, at points it is cartilaginous in consistency. On incision the parenchyma presents a "nutmeg" appearance, also grayish areas of fibrous proliferation. The gall-bladder is not discernible. The pancreas shows no gross lesions.

Pathologic Diagnosis.—Hypertrophy of right and left ventricles of the heart: chronic adhesive pericarditis; atheroma of the aorta with multiple aneurysms; bilateral chronic adhesive pleuritis; acute fibrinous pleuritis in the left side; loculated hemorrhagic pleuritis at the base of the right lung; atelectasis of the lower lobe of the right lung; congestion of the spleen; cyanotic induration of the kidneys; congestion of the stomach; red atrophy and cirrhosis of the liver; chronic productive perihepatitis; chronic adhesive peritonitis, with added acute fibrinous peritonitis.

In regard to the etiology of multiple serositis it is worth noting that frequent association with arteriosclerosis and chronic interstitial nephritis has been observed. In view of the wide distribution of the lesions, affecting several or all of the serous membranes, the condition has been ascribed to the action of a toxin, analogous to that of anemia. On the other hand, a variety of pathogenic organisms, including, among others, *Bacillus typhosus, B. tuberculosis, Plasmodium malariae and Spirochaeta pallida*, have been held responsible. Association with tuberculosis has been noted frequently. The case presented might be cited in support of the theory of the syphilitic origin of multiple serositis. It is to be borne in mind, however, that the condition is essentially a terminal phenomenon, occurring usually in patients who have suffered for years from grave organic disease, and the existence of syphilis, tuberculosis or any of the other common diseases, might reasonably be viewed as a coincidence or as a predisposing condition rather than as the efficient cause of the specific changes in the serous membranes. Pathologically, the case presents most of the features that have been described as characteristic, and, as has been stated, may be assigned either to the peritoneal (perihepatic) or pericardial (adhesive pericarditis) group. The condition of the aorta is probably the result of syphilitic aortitis, and does not seem to be an essential feature of the polyorrhymenitis.

The affection, however, is not always a late development. Not far from the time that this case was under observation one of us (S. S. C.) had under care at the Jefferson Hospital a girl of 10 or 11 years who had developed, following scarlet fever, a tendency to recurrent exudations into the pericardium, pleurae and peritoneum. There was not sufficient impairment of the heart or kidney to support the diagnosis of passive effusion, due to failure of circulatory or excretory function. Both spleen and liver were enlarged and tender; there was hyperleukocytosis. Roentgen-ray examination showed enlargement and deepening of cardiac shadow and a dense mass of abdominal shadows, obscuring all details. Tuberculosis could not be excluded positively; neither could it be demonstrated beyond cavil, although the Moro test gave an affirmative result. The beginning of the exudative period was accompanied by fever, which subsided as the physical signs of fluid became marked. A period of prolonged quiescence occurred under treatment and the patient was removed from the hospital and the city. Her present condition is unknown.

Later, in the service of one of us (S. S. C.) also at Jefferson Hospital, a man of middle age, admitted with typhoid fever, developed inflammatory pleural and peritoneal effusions, which necessitated tapping, and which recurred twice during the prolonged convalescence. The liver, spleen and heart gave no evidence of involvement.

It is possible, even plausible, that these two cases—of which fuller report will be made later—represent one of the modes of origin of multiple serositis; namely, as an epiphenomenon of infections; but under what exciting conditions, in the absence of a recognized specific organism, it is difficult, if not impossible, to say.

A further allusion may be made to the remarkable condition of the aorta in the subject of the main report of this paper. Dulness over the upper part and to the left of the sternum, with the peculiar churning murmur heard in this region, led to the suspicion of aneurysm or of considerable aortic dilatation with a relative insufficiency. This opinion was confirmed by the large pulsating shadow shown on the fluoroscopic examination; but the multiplicity of the aneurysmal sacs was not suspected.

525 Walnut Street—1716 Locust Street.

SIGNED CONSENT TO A NECROPSY A CONDITION TO ADMISSION TO OUR HOSPITALS

A BRIEF ACCOUNT OF TEN YEARS' EXPERIENCE IN THE PHIPPS INSTITUTE OF PHILADELPHIA

H. R. M. LANDIS, M.D.
Director of the Medical and Sociologic Departments of the Phipps Institute of the University of Pennsylvania; Assistant Professor of Medicine in the University of Pennsylvania
PHILADELPHIA

The following account has been written to show how one hospital has solved the problem of the need of American hospitals for more necropsies, discussed recently by Theodore C. Janeway.[1] Whether or not the plan of requiring a signed consent to a necropsy in case of death is feasible for all hospitals, I am not prepared to say. I do feel, however, that the plan can be adopted far more generally than is at present thought possible, if the medical profession as a whole will take a more active interest in the matter.

It is an undeniable fact that far too many of the attending physicians and surgeons in our hospitals are lukewarm in their attitude toward this question, while most physicians without hospital connections take little or no interest at all. For those who are interested both in the advancement of the art of medicine and in the more thorough equipment of our students, it is rather discouraging to learn from the figures quoted by Dr. Janeway that, with three or four exceptions, only from 4.8 to 24.5 per cent. of the dead in our institutions are examined post mortem. The handicap under which American investigators and teachers labor is made more apparent when it is realized that in Germany and Austria the percentage of necropsies ranges from 77 to 99.9; in England from 71.9 to 85.9, and in the two great hospitals of Montreal from 62 to 86.4. As Dr. Janeway has well said, there is "no factor at the moment which operates so strongly to discourage careful clinical investigation in the wards of our hospitals as the probability that for three-quarters of the patients studied, the results will be lost in the case of death by failure to secure an autopsy."

It was just this realization of the situation that led to the adoption of compulsory necropsies in the Phipps Institute at the time of its organization ten years ago. The first director, Dr. Lawrence F. Flick, realizing that the staff of the institute would have to be trained in the diagnosis of diseases of the chest, and that a thorough study of the pathology of tuberculosis was possible only through the performance of as many necropsies as possible, made admission to the wards of the institute conditional on the signing of a blank reading as follows:

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[1] Janeway, Theodore C.: The Great Need of American Hospitals: More Autopsies, Mod. Hosp., October, 1913.

> I, ———, being the nearest responsible relative of M ———, in consideration of treatment and care at the Henry Phipps Institute, for the Study, Treatment and Prevention of Tuberculosis, do hereby grant permission to the medical staff, in event of death at that institution, for a necropsy.
>
> I will also be responsible for the removal of the body.
>
> Witness .... Signed ....
> Address .... Address ....

The accompanying table shows the number of patients treated in the wards, the number of deaths and the number of necropsies.

HOSPITAL PATIENTS, DEATHS AND NECROPSIES

	In Hospital	Deaths	*Necropsies*
1903	238	54	53
1904	234	89	89
1905	197	60	60
1906	205	69	69
1907	227	80	78
1908	195	53	53
1909	225	76	75
1910*	108	51	49
1911	122	40	38
1912	121	42	40
	1,872	614	604 or 98.37 per cent.

* The decrease in the number of patients and necropsies is due to the fact that in the spring of 1910 the bed capacity of the institute was reduced from 52 to 24, with 2 emergency beds.

In the ten cases in which no necropsy was held, it may be said that the right to do it was not waived because of objections raised after the death of the patient. In but one instance was there any probability that the family would have tried to resist the institute in the exercise of its rights.

For the first seven years the institute maintained fifty-two beds for advanced cases only. In the spring of 1910, when it was transferred to the University of Pennsylvania, the number of beds was reduced to twenty-four with two emergency beds. Finally, when the new Phipps Institute was opened in May, 1913, but half the twenty-four beds were devoted to advanced cases, the other twelve being used for incipient cases.

Although there is little likelihood of any of the latter patients dying in the institute, the same requirement is exacted for admission to the incipient as to the advanced ward. Even in the case of patients admitted but for a few days for some special treatment the necropsy blank must be signed.

The question naturally arises: To what extent has the signing of the necropsy blank militated against persons entering the institute? With the possible exception of Jewish patients, it practically has had no influence whatever. While no record has been kept of families who refused to allow a relative to enter the institute on account of this requirement, I can safely say that the number of refusals has been negligible and that there has never been a time when there was not a waiting list.

11 South Twenty-First Street.

Etiology of Mental Disease.—The problem of the causes of mental diseases is perhaps the one most subject to the influence of prejudices on account of its still being wrapped in obscurity and because it involves the vexed enigma of the relation between mind and body, between consciousness and organic cerebral processes.—Lugaro, Problems of Psychiatry.

COUGH-DILATATION TIME A MEASURE OF HEART FUNCTION

PRELIMINARY NOTE *

JAMES BIRNEY GUTHRIE, B.S., M.D.
Professor of Clinical Medicine, Tulane University of Louisiana, Medical Department
NEW ORLEANS

For a number of years I have been an exponent of the light percussion method of outlining the heart borders. On one occasion, after having carefully outlined the heart of a patient in bed, who was suffering with a marked degree of cardiac insufficiency, and having drawn on the chest-wall a projection diagram, I was interrupted for a few minutes; and then I returned and repeated the procedure. To my surprise, I found that the outline had changed, and that the right heart border was pushed out 2 cm. Investigation as to the cause of this phenomenon showed that the patient had coughed rather violently in the interval, and in so doing had dilated the heart. This patient I regarded then as having a most interesting and unusual case of heart weakness. A number of my colleagues, who, like myself, were interested in the light percussion method, were brought in to see this case, and concurred with me as to the existence of *cough dilatation.* The dilatation reached its maximum after three cough efforts, and in this particular case lasted five minutes, during which time there was a gradual return to the original outline.

For some time I believed that this case, and similar ones which I found subsequently, were extreme cases of cardiac weakness. I discovered them in a colored service made up largely of cardiorenal cases. This view, in the light of subsequent work, I no longer hold, but have come to look on the procedure of outlining the heart by percussion or roentgenoscopy before and after cough, timing the return to the original size of the outline, as a most valuable index of the integrity of the heart muscle. The healthy heart dilates on coughing to a degree perceptible during Roentgen examination, but not appreciable by percussion. The time factor is quite as important as the measurement of the outward displacement of the right heart border. The graver the heart weakness, the longer the dilatation lasts. The longest cough-dilatation time observed so far has been fifteen minutes, and the shortest five seconds. This statement is based on careful examination of over one hundred cases. It is probable that this range of cough-dilatation time will be extended on further observation.

It is evident that any effort (such as straining at stool, sneezing or other expulsive respiratory effort) which involves the closure of the glottis, and a more or less prolonged straining with the muscles of forcible respiration, raises intrathoracic pressure, and narrows every radicle of the pulmonary artery. The resistance is thus increased, and the response of the heart muscle to this purposely set task of coughing is observed in a rapid cough-dilatation, after which the heart may either return immediately to its normal size, or the cough-dilatation may last fifteen minutes.

I have often found that patients who could not be taught to cough vigorously could be made to bring about the same result by holding the nose and trying to force out the breath with the mouth closed. This pushes out the borders of the whole right ventricle very promptly, and accomplishes what the three successive coughs do, and in less time. This effort, similar to horn-blowing, the patient makes readily, and the timing of cough-dilatation may commence as soon as free respiration begins again.

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* Presented before the Mississippi Valley Medical Association, at New Orleans, Oct. 24, 1913.

A search through the literature fails to reveal a single test of heart function which involves a systematic observation of the heart-change resulting from a designed alteration in the resistance in the pulmonary circulation. Either percussion, orthodiagraph, ordinary fluoroscope or roentgenograph may be used to determine the variations in the position and shape of the heart borders during cough-dilatation. The left heart border also is to be observed before and after coughing, and the outline changes as does the outline of the right heart border, but returns to resting position a few seconds earlier. This phenomenon of the pushing out of the left border is due, I believe, entirely to the dilatation of the right ventricle. In practice it is hardly necessary to observe the cough-dilatation time on both heart borders, the observation of the right being quite sufficient. There are some practitioners, however, who find difficulty in percussing the right heart border, and who seem to be fairly successful in outlining the left. These might find it necessary to make observations entirely on the left heart border, but would have to bear in mind that there would probably be some cases of moderate dilatation (that is, moderate heart weakness), which would be missed if the changes in position of the right border during the cough-dilatation time were not studied along with those of the left.

Timing the duration of these changes is the most important observation. In addition, by auscultation at the second left inter-space after coughing, a variation can sometimes be detected in the intensity of the second pulmonic sound during cough-dilatation. This variation has not been studied thoroughly, but will probably be found to vary as does the blood-pressure in Katzenstein's test of the left ventricle (simultaneous digital compression of both femoral arteries just below Poupart's ligament). The effect on pulse-rate is also a subject for future work.

The actual distance from the midsternal line that the heart borders are pushed outward by cough or by the horn-blowing procedure I at first regarded as the most important phase of the test; but I now look on the reaction time (cough-dilatation time) as the most important single factor. As I now use it, the test consists in measuring the horizontal distance between the resting position and the heart borders after cough or after forcing the breath, as in horn-blowing, together with the time necessary for the heart to return to resting position after cough-dilatation — that is, reaction time.

I do not expect corroborative results from any one who does not use the light percussion method. I do not believe that it is possible to obtain correct heart outlines, except through using the lightest percussion blow with the minimal force necessary to produce sound waves over resonant structures. One who uses heavy percussion must fall back on the orthodiagraph or fluoroscope in studying the cough-dilatation time.

The advantages of this method are its simplicity, the ease with which it can be done, and the fact that elaborate, costly apparatus is not necessary in order to carry it out. A watch, preferably a stop-watch, a skin-pencil and a centimeter tape-measure constitute all the apparatus necessary.

While it cannot be asserted for any procedure which brings on a dilatation of the right ventricle that it is absolutely free from danger to the patient, the three successive coughs, or a single horn-blowing effort with mouth closed, sufficient in my experience to bring on maximum dilatation, have never caused any disastrous results to the patient. These three coughs given at a word of command hardly call for more effort than the patient himself makes innumerable times without direction from the physician.

As to the surgical aspects of this test, it would seem from present knowledge that it would be hazardous to operate under general anesthesia on a patient who had a cough-dilatation time as great as five minutes. Further investigation will probably force the conclusion that the danger-line lies considerably below five minutes. I have seen several safely operated on who showed positive cough-dilatation, but whose cough-dilatation time was less than one minute. Some one has tersely remarked that it is not the patient with known cardiac disease that dies from anesthesia, but the one in whom it is not suspected. The use of this test during the examination previous to operation will, I believe, help to put into the "known" category some cases that ordinarily would escape the usual methods of heart diagnosis.

From the point of view of therapeutics, this work shows wherein lies one of the grave dangers to the cardiac patient. Dilatation can be demonstrated coming on in a very weak heart after a single act of coughing, and after any muscular effort performed with the glottis closed, such as lifting, stooping, straining at stool, getting into and out of bed, blowing a wind instrument, etc. With the exception, perhaps, of cough, all of these are comparatively easy for a cardiac patient to avoid. Cough in cardiacs must be treated, if the strain on the right ventricle is not to be multiplied indefinitely. The study of these various cough-dilatation phenomena suggests the inference that here is to be found the chief explanation of the benefit derived from opiates in cardiac insufficiency.

I am not of the opinion that in this test we have arrived at the Ultima Thule of heart investigation, or that it will prove more useful than any of the other tests hitherto devised; but I do believe that it will be found to supplement the tests of the left heart already known, and that in a number of cases it will be the first obtainable sign of heart weakness. If one can obtain an approximate idea of the integrity of the heart muscle in a ventricular wall, it may be fairly assumed that the other portions of the heart will show the same proportion of normal fibers.

1206 Maison Blanche Building

A RAPID METHOD OF ISOLATING PATHOGENIC STREPTOCOCCI FROM CONTAMINATED FIELDS

LOUIS L. TEN BROECK, M.D.
MINNEAPOLIS

The work of Sabouraud in demonstrating the streptococcus in skin lesions, the bacteriology of which had been misconstrued; the researches of Rosenow, Hamburger, Capps, Davis and others in giving this germ an important place as a causative factor in epidemics; Billing's writings on the remote effects of focal infections; Rosenow's contributions to the study of rheumatism, and his interesting experiences in the mutability of the streptococcus when grown under varied conditions, have greatly increased the importance of study of this organism and especially stimulated study in methods of isolation and differentiation. Notably among these are the studies of Gordon, Walker and others in fermentation tests, and Ruediger's suggestion of differentiation by hemolysis.

For a long time there has been wanted a method of rapid isolation of this germ from such badly contaminated fields as the nasal and respiratory passages, neglected phlegmon, etc., which at the same time would clearly establish its pathogenic properties in a way that morphologic or cultural phenomena could only indirectly accomplish.

My attention was first drawn to this subject during a friendly discussion with a well-known rhinologist who was removing a turbinate for the relief of an intractable asthma. It was argued that persistent nasal infections were far more frequently streptococcal than supposed; that asthmatic complications were in part at least a condition of allergy in which the streptococcus took a very prominent part, and that the reason why this germ was overlooked was because of deficient bacteriologic technic. It was agreed to call in a competent bacteriologist for the usual cultural examination and at the same time attempt to devise a method for the demonstration of the streptococcus. Accordingly the bacteriologist reported only the *Micrococcus catarrhalis*. The special technic devised was based on the following principles:

1. Use of liquid mediums as suggested by Sabouraud.
2. Extreme susceptibility of rabbits to streptococci.
3. Peculiar reaction and vulnerability of the peritoneum to streptococcal infections as described by Murphy. It was thought that by grading the dose the peritoneum would fall a prey to the streptococcus even before the other pathogens took hold, and that a certain point of the disease would be reached when there would be the characteristic dry peritonitis or retroperitoneal cellulitis. Intraperitoneal injections of from 2 to 5 c.c. of fresh bouillon cultures of a mixed growth (obtained by dropping the thoroughly washed resected bone into bouillon) were made every two or three hours. At the earliest signs of sepsis the animal was chloroformed and a dry peritonitis was found yielding pure and intensely virulent cultures of streptococcus.

The vaccine prepared by the bacteriologist was impotent. That from the peritoneal exudate was not only helpful in the asthmatic condition, but reduced the blood-pressure from 175 mm. to 145 mm. This method has been used in four cases of subcutaneous infection, in all of which the diversified bacteriologic flora had misled the attendants and in which the method not alone promptly cleared up the diagnosis but was made the basis for proper immunologic measures that provoked a very gratifying response.

I believe that in these cases, in all of which the usual measures had been exhausted without relief, this method saved a human life. In another case there was a fatal issue. This patient died before a diagnosis even was established.

It is not suggested that this method be used to the exclusion of others. It is to be used in conjunction with other approved methods. Neither is it to be expected that there will always be a pure streptococcic culture to the exclusion of other pathogens, but the peculiar reaction will help establish the diagnosis; and the more virulent the streptococcus, in which case greater haste and certainty is demanded, the more certain will be the result. In persistent postnasal infections, I have been able to find this germ by first using negative pressure to draw from the deep sinuses, and then, having the patient swallow (to isolate the posterior nares), I have changed from negative to positive pressure, opening the other nostril. A stream of air in this way is forced into one nostril and out of the other and can be directed into suitable mediums. The colonies on solid mediums are for the most part discrete and are derived from the posterior nares just as well as from the anterior, a result impossible to attain by any method requiring use of a swab.

Since writing the foregoing, I find that Cole has used a similar method in isolating the pneumococci from sputum, injecting the same intraperitoneally into a rat, which animal meets the needs of the pneumococcus better than any other. Rabbits are usable, however, and as a rule are more readily obtainable. The method is therefore not a new one, but it can be applied in any laboratory, and its use will undoubtedly unmask the real bacteriologic cause of virulent or persistent infections, and with the present status of immunotherapy will also not infrequently assist in effecting a cure.

507 Syndicate Block.

CHRONIC MALIGNANT DEGENERATION OF THE THYROID

WITH REPORT OF CASE

FRANK A. CARMICHAEL, M.D.
OSAWATOMIE, KAN.

Malignant degeneration of the thyroid is not uncommon in itself. Both sarcoma and carcinoma occur in this gland with such frequency that the subject of malignancy as a whole affecting this structure would cover a very wide scope. There have been noted, however, certain cases of malignancy of the thyroid pursuing a remarkably chronic course, of which very little has been written, so far as I have been able to determine from a reasonably painstaking search of the literature of the past few years.

This unusual type presents some striking variations from the ordinary types of malignant change in marked aberrations from the usual trend of malignant neoplastic growths of the same general character in other anatomic locations, and a behavior of morbid tissues at variance with that of the same cell type under similar conditions of proliferative excitation in tissues in close physiologic and anatomic relationship to the thyroid. This peculiarity seems to be confined to a certain type of growth springing from the epithelial or glandular elements of the thyroid and is not manifested in the various sarcomatous degenerations that affect it.

From time to time mention has been made of the unusual chronicity of certain types of malignant adenoma of the thyroid by various writers. This feature of extreme chronicity in carcinomas of the glandular type in a gland of such actively secretive and metabolic importance as the thyroid, with its unusually ample blood and lymphatic supply, constitutes an anomaly that may, so far as I am aware, be accounted for only on hypothetic grounds.

Whether this unusual chronicity may be attributed to an inhibitory influence of the normal colloid substance of the gland, or to the iodin content of the gland secretion, or to some peculiarity inherent in the parent tissue cell, has not so far been clearly determined; yet the phenomena of neoplasms of the adenocarcinomatous type extending over periods of from five to fifteen years is occasionally noted. The pronounced tendency of thyroid malignancy to metastasize in the osseous structure and the frequent extremely slow course of their development in these locations tends to strengthen the hypothesis that in the peculiarity of the cell itself or in that of its complex secretions we may find the solution of the problem of this chronicity.

It being a well-defined law applicable to all neoplasms that metastases must partake of the cell form and structural characteristics of the parent growth, the inference by analogy is that they must also conform in rate of growth and development with that of the primary tumor.

It has been stated that great difficulty is frequently encountered in the microscopic determination of the nature of these growths because of the alteration of tissue by infiltration of connective tissue or chronic inflammatory changes that so obscure the findings that many fields and many sections must frequently be examined before anything resembling adenomatous structure is discovered. This may doubtless account for the various departures from the ordinary nomenclature in relation to the gross or microscopic appearance of these growths in the reports of various writers.

We may thus construe the "iron-hard struma" of Reidel as a carcinoma of atypical form, its ligenous character dependent on connective-tissue infiltration, while the "chronic malignant strumitis" recently reported by Meyer[1] might be accepted as a type of carcinoma or other malignant field on which some inflammatory process, bacterial or toxic, has been engrafted.

Perhaps the most interesting phenomenon in connection with these cases of chronic malignant change is that we are forced to the assumption of the ability of the neoplastic cell to assume the secretive function of the normal glandular structure. This assumption has its support from the fact that in careful microscopic examination of certain of these glands when the patient had exhibited no symptoms of thyroid insufficiency, no traces of glandular structure even remotely approaching normal could be found.

Von Bergmann reports a case in a man past 40 in whom, after removal of the thyroid for carcinoma, symptoms of myxedema promptly appeared, continuing until a recurrence, when they gradually subsided as the recurrence became more marked. Two years later the entire growth was removed because of pressure symptoms, when tetany immediately developed.

Von Eiselsberg reports a similar case with identical symptoms following a primary and secondary operation.

While this must be accepted as presumptive evidence that neoplastic cells may take on the function of actively secreting structures, thereby invalidating the definitive clause applying to neoplastic growths "without function," it is not conclusive, as we cannot feel assured that aberrant parathyroids were not removed in the second operation. This, however, does not alter or modify the significance of the phenomenon of myxedema developing on the primary extirpation of the gland, with the subsidence of symptoms on the development of metastases.

The clinical features of the case which I shall report confirm in a measure the observations of von Bergmann and von Eiselsberg in so far as they relate to the systemic disturbance incident to the removal of the primary tumor.

REPORT OF CASE

The patient, J. E., farmer, aged 50, born in England, came to America as a boy. Family history is negative as to tumor growths, goiter, tuberculosis or syphilis; father, six brothers and four sisters are living. Patient has always been healthy though never robust; thinks he has had the common diseases of infancy, but no illness or injury since attaining manhood. He denies any form of venereal infection. At the age of 15 he noted a small nodule in the region of the thyroid which within a year attained the size of a walnut. From this time until about eight years ago it remained practically stationary. In 1907 it began to increase rapidly in size, forming a large, moderately soft, pedunculated mass, and within a year became so large that it was necessary to support it by suspending it from the neck with a very large handkerchief.

On the advice of his family physician he went to Chicago, where the entire tumor mass was removed. The entire right lobe, isthmus and major portion of the left lobe were removed. Healing was by first intention. Immediately following the operation there were slight trismus, mental hebetude, dryness of the skin and other evidences of incipient myxedema, which gradually disappeared on the development of a recurrence. Within a week after operation there was a noticeable increase in the size of the fragment of left lobe, which rapidly increased to the size of a tangerine, forming a brawny infiltrating mass. *Six months later a metastasis appeared on the manubrium*, which has gradually increased in size. Contrary to the rule, there has been no pain or edema in either the primary or the secondary tumor. Patient eats, sleeps and feels well. There is a slight laryngeal cough.

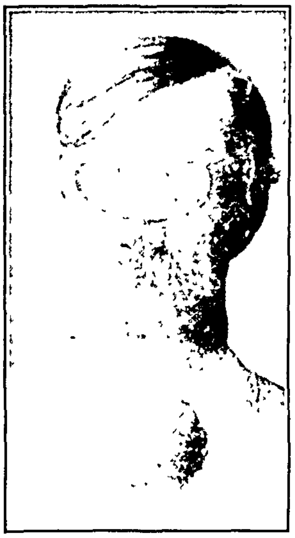

Fig. 1.—Malignant degeneration of the thyroid as it appeared in January, 1909, two years after operation.

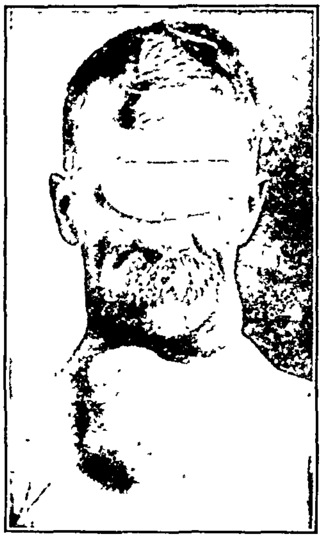

Fig. 2.—Appearance of growth in July, 1913.

Examination shows a man fairly well nourished, thin but not cachectic, muscles fairly firm, skin elastic and of good color, eyes, chest, abdomen and reflexes normal; temperature normal, pulse 76. The supraclavicular, infraclavicular and axillary lymph-nodes on the left side are enlarged and fixed to the underlying tissues, enlargement being most noticeable in the supraclavicular group. A large sessile tumor occupies the site of the left thyroid lobe. A large, nodular and extremely hard tumor mass, the size of a child's head, covers the manubrium and a part of the gladiolus. These tumors are fixed, painless and of unusual hardness. The superficial veins over the sternal tumor mass are enlarged, tortuous and prominent.

Our knowledge of the etiology of these growths does not extend beyond those factors favoring malignancy elsewhere in the body. Erhardt accepts the view that the chronic irritation accompanying goitrous changes with their attendant local vascular alterations is responsible for most cases, which is supported by the fact that malignant degenerations, when they occur, almost invariably occur in thyroids that have undergone goitrous changes.

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[1] Meyer: Chronic Malignant Thyreoiditis, Peculiar Granuloma Consisting of Eosinophils and Plasma-Cells Originating in the Right Lobe of the Thyroid, Ztschr. f. Path., 1913, xii, 116; abstr., Surg., Gynec. and Obst., 1913, xvi, 362.

Braun, Cramer, von Eiselsberg, Halstead and others attribute a certain causative rôle to trauma.

The feature claiming special interest in these cases, however, is the extreme chronicity of certain types of carcinoma of this gland. The course of sarcomatous changes in the thyroid does not materially differ from that of its occurrence elsewhere in the body. Most carcinomas also run their course within the usual two- or three-year limit. Pathologists are emphatic in their contention that the occurrence of scirrhous growths in the thyroid is extremely rare, and yet we find certain malignant changes essentially of the adenocarcinomatous type that pursue an extremely chronic course extending over a period of many years, so insidious in their growth and development that they were not considered malignant by earlier writers, who even characterized their metastases as "benign metastases."

Claiming equal interest and offering a promising field for research is the problem of whether or not a neoplastic cell originating in a functionating gland may take up and perform the functions of its normal secreting structure.

A CASE OF PATENT DUCTUS ARTERIOSUS (BOTALLI)

WITH REPORT OF A NEW PHYSICAL SIGN

IRVING SIMONS, B.S., M.D.
NASHVILLE, TENN.

The comparative rarity of patent ductus arteriosus and its diagnosis during life has been attested by the comparatively infrequent reports. In this case the diagnosis seemed clear even without the roentgenogram, which simply affirmed the clinical findings, although there are unquestionably many cases which need the roentgenogram for diagnosis.

The presence of Frank's sign (that is, audibility of the murmur in the left interscapular space), and its presence on the right side also, is worthy of mention. The lack of pulsation of the shadow of the pulmonic artery is to be noted also as Wessler and Bass state that this pulsation is pathognomic.

CASE-REPORT

C. O., aged 21, white man, born by normal delivery, not a blue baby, was a healthy and normal child, except that he has always been deaf and dumb; has had measles. There is no history of rheumatism except for occasional attacks of stiff neck. At the age of 13, while at school, he was noted for his ability as a football player. Once during this time he was confined to bed for two weeks with extreme dyspnea and fever (?) and his physician said he had heart disease and advised him never to play football again, but he continued to play. No symptoms of cardiac decompensation at any other time. Two months ago he had gonorrhea and developed epididymitis on the right side which is now quiescent.

Physical Examination.—General condition, good; spare, athletic young man. Heart inspection shows a very marked apical impulse diffused over the fifth and sixth spaces just outside of the midclavicular line.

Percussion shows right border normal except below, where it sweeps outward a couple of fingers beyond the sternum (4 cm. from the midline). Cardiohepatic angle of 90 degrees. Liver percusses dull at fifth, flat at sixth space.

Left border shows marked dulness at base of heart in the second and third left spaces. Apex in fifth and sixth spaces in anterior axillary line.

Measurements of left border:

In first space— 6.5 cm. from midsternum.
In second space— 7. cm. from midsternum.
In third space— 9.5 cm. from midsternum.
In fourth space—11. cm. from midsternum.
In fifth space—12. cm. from midsternum.
In sixth space—12.5 cm. from midsternum.

Palpation shows a continuous purring thrill in the second left space extending downward even to the third left space. It corresponds to the area of dulness described above and its position is shown on the illustration by the mark X.

The apex-beat is very forcible and extends over the fifth and sixth spaces and the sixth rib. Its position is shown in the illustration by a circle, the point of maximum intensity being represented by a dot in the circle.

Auscultation shows a loud rumbling continuous murmur heard over the second and third left spaces, X. This murmur is absolutely continuous but has a systolic and diastolic exacerbation, of which the former is the louder. It is not transmitted anywhere over the front of the thorax, or up the carotid arteries, nor is it heard in the radials or the femorals. It corresponds to the thrill felt and described.

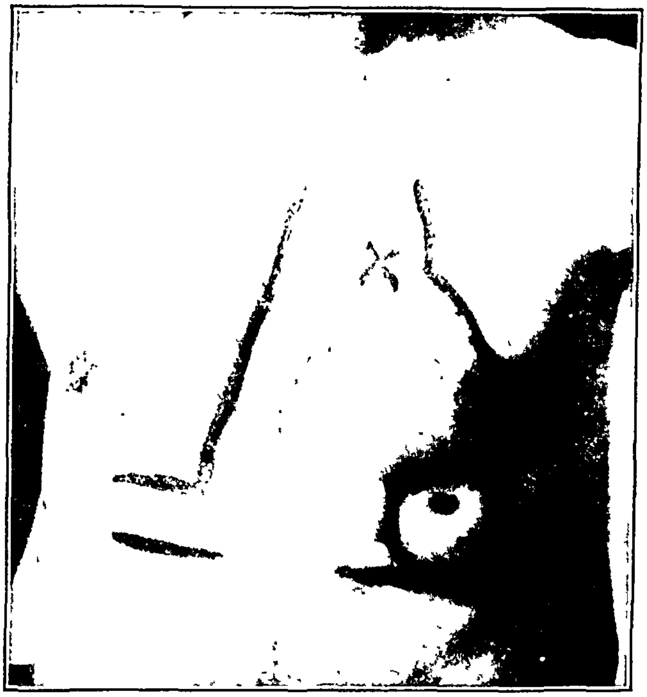


Diagram illustrating the position of the thrill murmur and the cardiac borders.

The second pulmonic sound is not distinguishable. The second aortic is clear and distinct. In the back it is heard on both sides in the region between the scapulae and the vertebral column at about the level of the spine of the scapula. Here it is heard on both sides but fainter on the right side than on the left. The sounds are, of course, markedly diminished as compared with the sounds heard anteriorly.

At the apex is a soft non-transmitted systolic murmur. The pulses are equal, regular, of normal rate and synchronous. No collapsing quality noted.

Blood-pressure: (auscultatory method).
Systolic, 105 mm. Hg.
Diastolic, 70 mm. Hg.

Extremities: Negative. No edema or signs of clubbing of the fingers or toes.

The rest of the physical examination is negative. The patient is in good health and does a moderate amount of heavy lifting in his work. Recently he ran up two flights of steps with me and was no more dyspneic than anyone without cardiac lesion would have been.

SUMMARY

The following features are noteworthy:

1. No distinct history of rheumatism.

2. A continuous murmur with thrill in the second and third left spaces, and dulness over these spaces for from 7 to 9.5 cm. to the left of the median line.

3. Localization of the murmur in both interscapular regions.

4. Left-sided cardiac hypertrophy.

5. Absence of discomfort due to heart except for one period of two weeks about eight years ago when he seemed to have some cardiac dyspnea.

A consideration of some of these observations leads me to a diagnosis of patent ductus arteriosus (Botalli). The dulness to the left of the sternum (Gerhardt's sign),[1] was well substantiated by the enlargement of the pulmonic artery which was shown in the roentgenogram. The localization of the murmur in the left interscapular region (François Frank's sign[2]) was clear.

The localization of the murmur in the right interscapular region has to my knowledge never been noted. If this localization is due to transmission down the pulmonic arteries, which would seem probable, there is no reason why it should not be bilateral.

The pulsation of the enlarged pulmonic artery, described as pathognomonic by Wessler and Bass,[3] was looked for with the Roentgen ray but was not observed.

The cause of the left ventricular cardiac hypertrophy is not at all clear. It may be due to aortic stenosis which is at times associated with open ductus arteriosus but there was no enlargement of the first portion of the aorta in the roentgenogram, as was shown in Wessler and Bass' fourth case.

There was slight enlargement to the right but the great hypertrophy of the left ventricle prevented the development of the round heart (*Kugelherz*) of Groedel.[4]

132 Eighth Avenue North.

A PREVIOUSLY UNEMPHASIZED FEATURE IN THE CONSTRUCTION OF NITROUS OXID-OXYGEN-ETHER APPARATUS

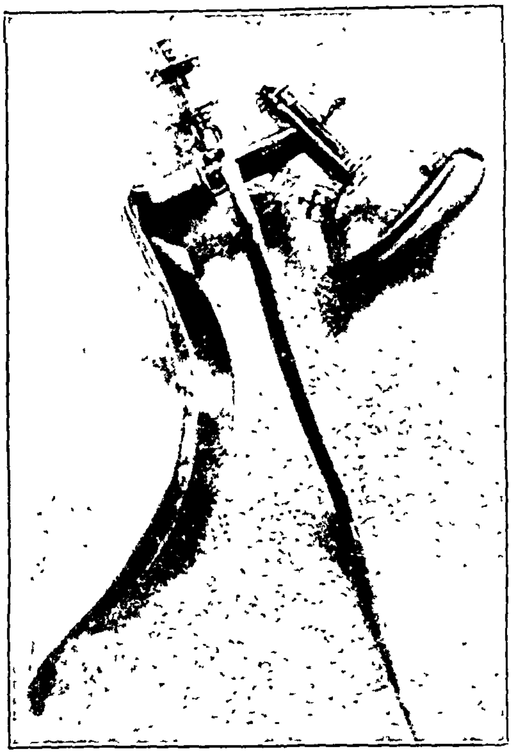
PALUEL J. FLAGG, M.D.
Anesthetist to The Woman's Hospital, New York, and St. Joseph's Hospital, Yonkers, N. Y.
NEW YORK

The usual arrangement of the various elements of nitrous oxid-oxygen apparatus are as follows: Nearest the face is the face-piece of variable size, shape and composition; next to this, a tube varying from 4 to 5 inches to 3 feet in length, and lastly, one or more bags used as a reservoir or for rebreathing purposes. These three elements, face-piece, connecting tube and bag, make up the essential parts of the nitrous oxid-oxygen apparatus.

Ether is dropped directly into this system, vaporizing therein before inhalation, or is admitted into the system previously vaporized.

Almost without exception the nitrous oxid and oxygen have been admitted, separately or together, directly into the bag, and it has been urged that a complete mixing be encouraged before inhalation is allowed. Many have gone so far as to provide definite percentages of nitrous oxid and oxygen. By this means it was thought possible to secure results which would not vary.

From a theoretical point of view this seems entirely satisfactory, but from a practical point of view the following difficulty arises: Imagine a person anesthetized. The anesthetist fills his bag with a definite mixture of nitrous oxid and oxygen. After the bag has been half emptied by the patient the operator finds that he has been mistaken in his percentages. The patient may either show symptoms of coming out or may be becoming rapidly cyanosed. In the first case concentrated nitrous oxid is demanded; in the second concentrated oxygen. The operator immediately runs in either nitrous oxid or oxygen, but he does not obtain the desired result because he must work through the half emptied bag, which serves to dilute the newly admitted gases.



Apparatus, showing tube for gas and oxygen entering apparatus near face-piece.

In other words, the apparatus is inelastic. It cannot adapt itself to the evanescent symptoms produced by the anesthetic. Many amateur failures of anesthesia by nitrous oxid-oxygen may be traced to this inelastic feature of the apparatus. The inexperienced, very naturally, cannot always guess what percentage to use, each patient being a law unto himself. If too much oxygen is used at the beginning, the patient refuses to go under; if too little oxygen is used, cyanosis or, in children particularly, jactitation occurs. The anesthetist can neither subdue in the one nor relieve in the other while there is still a residue in the rebreathing bag. After considerable disturbance on the part of the patient and anxiety on that of the anesthetist, an anesthesia fairly satisfactory to all concerned may be induced. Frequently the combination of a refractory patient, irritable, impatient surgeon and inexperienced anesthetist result in a poor form of gas-ether anesthesia, and gas-oxygen is blamed, unfairly, perhaps, but impersonally.

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[1] Gerhardt: Persistenz des Ductus Arteriosus (Botalli) Jena Ztschr. f med u. Naturw., 1876, iii, No. 2

[2] Frank, François: Gaz hebd de méd, 1878

[3] Wessler and Bass: Persistent Ductus Arteriosus (Botalli) and its Diagnosis by the Orthodiagraph, Am. Jour. Med Sc., April, 1913.

[4] Groedel: Deutsch. Arch. f. klin. Med, 1911, ciii, 413.

If the apparatus had been made sensitive, that is, if the nitrous oxid effects could have been had in concentrated form for only two breaths, the anesthetic state would have come on quickly. On the other hand, if oxygen could have been supplied at the first symptom of jactitation the anesthesia would have been far different.

The solution of the difficulty is so simple that its application can be made to any apparatus. The nitrous oxid and the oxygen should be admitted near the face-piece, proximal to the mixing-chamber. The gases when thus admitted flow back into the bag or are respired directly as desired.

If the gas is admitted during *an inspiration*, the patient receives it in concentrated form; if during expiration, the gas admitted is carried along with the expired air into the rebreathing chamber. When the gas is shut off the rebreathing continues as usual.

The effects of concentrated oxygen may be obtained by simply allowing it to run slowly and continuously into the apparatus.

To my knowledge, concentrated oxygen never did harm.

Concentrated nitrous oxid is required only in a light anesthetic state; that is, when the nitrous oxid content in the circulation is low. This state of light anesthesia is not likely to be confounded with any other condition, for there is no general depression as in ether. There is usually active light reflex, lid reflex, muscular rigidity and some movement, depending on the shallowness of the anesthesia.

In addition to this, it requires several respirations to saturate the alveolar capillaries with nitrous oxid, even when absolutely pure gas is used. But in my case the contents of the rebreathing bag tend to dilute the nitrous oxid admitted, thereby giving a high percentage of nitrous oxid rather than an absolutely pure nitrous oxid. The rate of diffusion of gases depends on their relative densities; the greater the difference in densities the greater the rapidity of diffusion. Consequently the warm gas in the bag and the cold gas just admitted diffuse rapidly.

Furthermore, there appears to be no clinical evidence that nitrous oxid thus administered is in any way injurious.

The apparatus used by me at the Woman's Hospital *illustrates this feature.*

This apparatus is a modification of the S. S. White inhaler. This inhaler is machine made, with interchangeable parts. A transparent celluloid face-piece enables one to watch the patient closely. The apparatus is always taken down after each operation and can be thoroughly cleansed and sterilized. Only one valve is used, a simple disk made of mica. The weight of the apparatus is two-thirds of Bennet's apparatus. It can also be used for a simple gas-ether anesthesia or for gas-oxygen induction followed by gas-ether.

The use of standard parts requiring small modification makes it possible to put out this device complete, including the rubber goods, bag and tubing, for the sum of twenty-five dollars.

The principle emphasized by Dr. R. C. Coburn in the location of the bag and also the position of the ether-cup have been employed, and acknowledgment is here made for many valuable suggestions gathered from the writings and remarks of Dr. Coburn.

120 Central Park South.

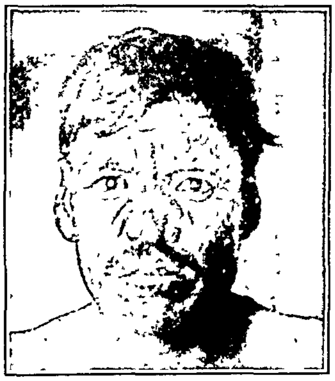
A CASE OF MACULOTUBERCULAR LEPROSY

W. R. Jamieson, M.D., El Paso, Tex.

History.—P. M., a Mexican of Indian type, aged 40, married, but for two years past separated from his wife, was referred, June 6, 1913, by Dr. J. E. Keltner.

The patient was born in Chihuahua, Mexico, and lived there until he came to El Paso eight years ago. During this time he was employed as a laborer and grave-digger at a local cemetery. Seven years ago he had rheumatic pains in his legs, accompanied with fever and swelling. He was unable to work for ten months. In the summer of 1911 he had fever, chills and rheumatic pains, which again appeared in May, 1912. Shortly after this two papules appeared on the forehead between the eyebrows; then for seven months there were no further symptoms. During this time he drank to excess. Five months ago new lesions began to appear, first on the face, then on the body. The patient says that recurrent crops of macules began to appear, successively taking up more surface and gradually becoming infiltrated and nodular. He lives with his father, mother and sister, none of whom present any symptoms of the disease.

Examination.—The patient is a well-nourished man of powerful build, with typical leonine cast of countenance. The forehead, nose and ears are studded with tubercles. Each nipple has one or two nodules. On the posterior surface of the upper arm are two infiltrated macular patches, about 6 by 3 inches in size, which are hotter to the touch than the sourrounding tissue and apparently are not anesthetic. The wrists and backs of the hands have pigmented spots, macules and a few nodules; the elbows and knees exhibit a psoriasiform eruption. The scrotum is so studded with tubercles that the eruption has an almost confluent appearance, while a few scattered nodules are on the penis. The lower limbs from the knees downward have pigmented spots, macular patches and a few scattered nodules. There is no ulceration anywhere. The heat-center is disturbed, as the patient perspires continually, particularly about the face, even when in a cool place.



Patient with maculotubercular form of leprosy.

The man was referred to Dr. L. B. Auerbach for *examination of the nose and throat, who reports as follows: The* cartilaginous septum is perforated in many places; the bony septum is crumbling, producing the typical saddle-nose. There is considerable crusting and discharge with an atrophic rhinitis. The turbinates are destroyed. The hard and soft palates are infiltrated with nodules. The uvula appears as a coarsely nodular and ulcerating mass, and seems to be sloughing. The tongue is irregular and nodular. The epiglottis, larynx, ary-epiglottic folds and ventricular bands are infiltrated, nodular, ulcerated and contracted. Nodules resembling papillomas are in various parts of the larynx. The pharynx, larynx and post-nasal space are all anesthetic. The voice is husky and snuffling.

Dr. W. W. Waite, bacteriologist of the Crouse laboratories, found typical lepra bacilli in the secretion from an incised nodule.

The patient was quarantined, but evidently becoming alarmed at the interest displayed in his case, decamped, and has not since been seen.

The Prepared Mind.—"In the fields of observation," said Pasteur, in his inaugural address as dean of the scientific faculty at Lille, "chance only favors the mind that is prepared."—G. T. Wrench, Lord Lister, His Life and Work.

New Instruments and Suggestions

DESCRIPTION OF AN APPARATUS FOR INTRATRACHEAL INSUFFLATION

J. P. Pratt, M.D., Baltimore

Intratracheal insufflation as a method of anesthesia is now well established. It has already been the means of saving lives as well as increasing the possibilities of surgery. It is unnecessary to deal here with the advantages and disadvantages of this method, as they have been discussed sufficiently in recent medical literature. An anesthetist to do the best work must be able to devote most of his time and attention to the patient, and his efficiency is decreased in proportion to the attention demanded by the apparatus used.

The apparatus here described is simple in construction and easy to manipulate.

The type of motor and pump used is almost noiseless. When the apparatus is in use it is well to have a foot-bellows near by in the event that the motor should fail to work properly. The three inlet tubes (F, F′ and the one to the right of F′) are therefore arranged so that the connection with the pump may be retained intact while the bellows is being connected. Instead of a bellows a tank of nitrous oxid or of oxygen may be employed.

The ether container, as already noted, is provided with a pressure equalizer. Were it not for this equalizer, the ether would be driven back into the container when pressure is admitted from below. The installation of the equalizing tube allows the ether to drop at the constant rate desired. This method of introducing the ether into the air-current has the following advantages: (1) any concentration of ether desired can be obtained; (2) the concentration is readily controlled; (3) an accurate idea of the amount of ether being used at any moment can be obtained by looking at the sight-feed.

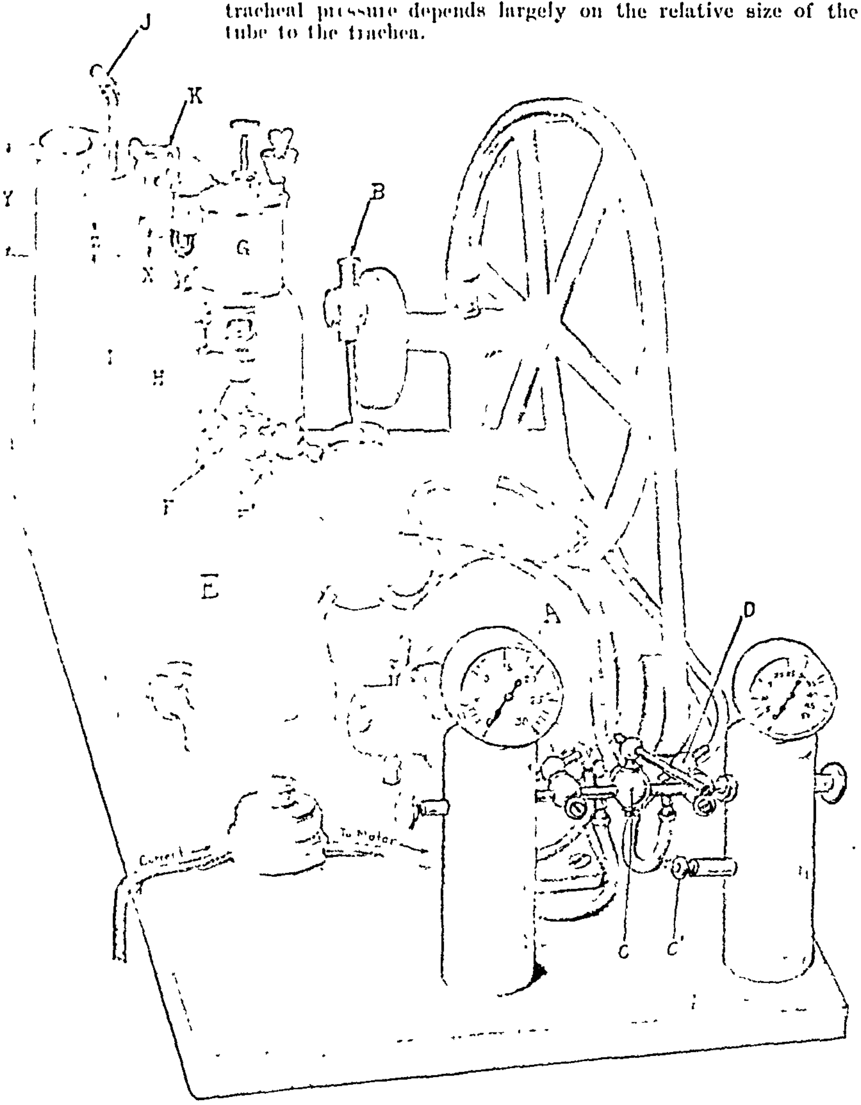
The ether driven by the current of air is vaporized in the warm coil and as it passes over the surface of the water it becomes saturated with moisture. Only a minimal amount of ether is absorbed by the water during the anesthesia, when the ether supply to the coil is discontinued, therefore, the flow of ether vapor into the tracheal tube promptly ceases. It is to be emphasized that the purpose of using warm water about the coil is solely to vaporize the ether. No attempt is made to warm the vapor, as the futility of such endeavors has been clearly demonstrated.

Furthermore, the passage of the vapor-laden air through the wide chamber above the water completely prevents the possibility of driving liquid ether into the tracheal tube.

A safety-valve is essential to an apparatus for intratracheal insufflation as emphasized by Melzer, and a manometer is also desirable in such an apparatus. Both have been provided in the machine here described, and for the sake of simplicity the two have been combined.

A glass tube is bent to form an elongated letter *S*. It is then so placed that one end opens into the air-space of the tank (*E*), and the other end is molded to form a cup which is covered with cotton and a perforated metal cap. The calibration arbitrarily chosen is that the distance (*X*) from the base of the cup to the concavity of the first curve shall be 2 cm. Into the manometer (*K*), mounted as shown in Figure 1, mercury is poured until (*Z*) the level of it in the arm (*Y*) is at the level of the base of the cup.

With the restoration of the initial pressure the mercury will flow from the cup into the tube and the manometer will be reestablished. When there is change of pressure in the tank, it will cause a rise or a fall of the mercury in the tube (*Y*). The fluctuations of the level of mercury thus serve as an indicator of the pressure of the current of air blown into the trachea, and grossly indicate the character of the respiration. If for any reason the pressure becomes greater than 2 cm. Hg, the mercury from the tube will be forced into the cup and the air will escape until the excess of pressure is relieved. The tube is not graduated, for apparently it is not necessary to measure accurately the machine pressure. Eisenbrey[1] has shown that with a machine pressure of 50 mm. Hg the pressure in the *trachea may* be as low as 2.2 *mm. Hg.* The intratracheal pressure depends largely on the relative size of the tube to the trachea.



Apparatus for intratracheal insufflation: A, an electric motor, 0.1 h.p.; B, a piston pump with valves at C and D; C′, a "spring-valve" to regulate the pressure of the stream of air; E: a metal tank nearly filled with warm water to vaporize the ether and to more completely saturate the air with moisture. F and F′ are inlets for the current of air, nitrous oxid and oxygen. They are connected with a copper coil placed in E, and the outlet of this coil is at the surface of the warm water near F. G is the container for ether with a sight-feed at H and a narrow tube (I) to equalize the pressure at the upper level of the ether with that of the air-current. J is the tube through which the anesthetic enters the trachea K is a combined mercury manometer and safety-valve.

The safety-valve as described is satisfactory when the apparatus is used in anesthetizing patients in whom the chest wall is intact. When, however, the thorax is opened, no dependence is to be placed on records of machine pressure. The guide must be the condition of the exposed lung.

For an intratracheal tube a woven linen or silk catheter is used. This tube is introduced into the trachea through a Jackson pharyngoscope by direct inspection of the larynx. The procedure of introducing the tube is very simple.

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[1] Eisenbrey · Surg., Gynec. and Obst., xv, 715.

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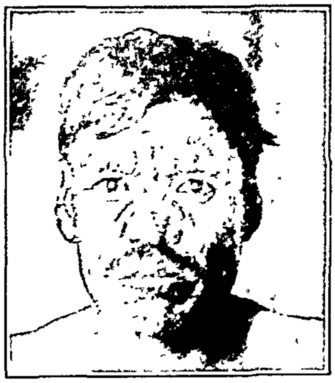

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New Instruments and Suggestions

DESCRIPTION OF AN APPARATUS FOR INTRATRACHEAL INSUFFLATION

J. P. Pratt, M.D., Baltimore

Intratracheal insufflation as a method of anesthesia is now well established. It has already been the means of saving lives as well as increasing the possibilities of surgery. It is unnecessary to deal here with the advantages and disadvantages of this method, as they have been discussed sufficiently in recent medical literature. An anesthetist to do the best work must be able to devote most of his time and attention to the patient, and his efficiency is decreased in proportion to the attention demanded by the apparatus used.

The apparatus here described is simple in construction and easy to manipulate.

The type of motor and pump used is almost noiseless. When the apparatus is in use it is well to have a foot bellows near by in the event that the motor should fail to work properly. The three inlet tubes (F, F' and the one to the right of F') are therefore arranged so that the connection with the pump may be retained intact while the bellows is being connected. Instead of a bellows a tank of nitrous oxid or of oxygen may be employed.

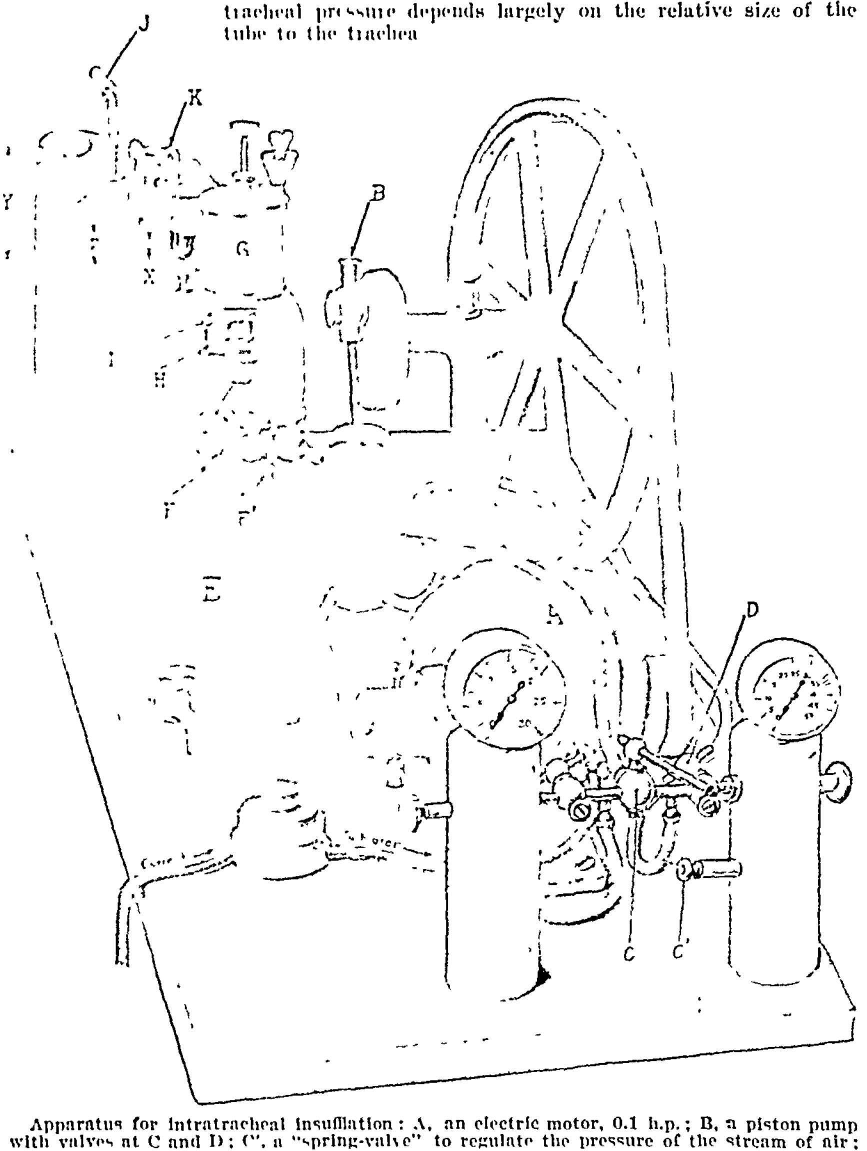
The ether container, as already noted, is provided with a pressure equalizer. Were it not for this equalizer, the ether would be driven back into the container when pressure is admitted from below. The installation of the equalizing tube allows the ether to drop at the constant rate desired. This method of introducing the ether into the air-current has the following advantages: (1) any concentration of ether desired can be obtained; (2) the concentration is readily controlled; (3) an accurate idea of the amount of ether being used at any moment can be obtained by looking at the sight-feed.

The ether driven by the current of air is vaporized in the warm coil and as it passes over the surface of the water it becomes saturated with moisture. Only a minimal amount of ether is absorbed by the water during the anesthesia, when the ether supply to the coil is discontinued, therefore, the flow of ether vapor into the tracheal tube promptly ceases. *It is to be emphasized* that the purpose of using warm water about the coil is solely to vaporize the ether. No attempt is made to warm the vapor, as the futility of such endeavors has been clearly demonstrated.

Furthermore, the passage of the vapor-laden air through the wide chamber above the water completely prevents the possibility of driving liquid ether into the tracheal tube.

A safety-valve is essential to an apparatus for intratracheal insufflation as emphasized by Melzer, and a manometer is also desirable in such an apparatus. Both have been provided in the machine here described, and for the sake of simplicity the two have been combined.

A glass tube is bent to form an elongated letter *S*. It is then so placed that one end opens into the air-space of the tank (*E*), and the other end is molded to form a cup which is covered with cotton and a perforated metal cap. The calibration arbitrarily chosen is that the distance (*X*) from the base of the cup to the concavity of the first curve shall be 2 cm. Into the manometer (*K*), mounted as shown in Figure 1, mercury is poured until (*Z*) the level of it in the arm (*Y*) is at the level of the base of the cup.



Apparatus for intratracheal insufflation: A, an electric motor, 0.1 h.p.; B, a piston pump with valves at C and D; C', a "spring-valve" to regulate the pressure of the stream of air; E; a metal tank nearly filled with warm water to vaporize the ether and to more completely saturate the air with moisture. F and F' are inlets for the current of air, nitrous oxid and oxygen. They are connected with a copper coil placed in E, and the outlet of this coil is at the surface of the warm water near F. G is the container for ether with a sight-feed at H and a narrow tube (I) to equalize the pressure at the upper level of the ether with that of the air-current. J is the tube through which the anesthetic enters the trachea. K is a combined mercury manometer and safety-valve.

With the restoration of the initial pressure the mercury will flow from the cup into the tube and the manometer will be reestablished. When there is change of pressure in the tank, it will cause a rise or a fall of the mercury in the tube (*Y*). The fluctuations of the level of mercury thus serve as an indicator of the pressure of the current of air blown into the trachea, and grossly indicate the character of the respiration. If for any reason the pressure becomes greater than 2 cm. Hg, the mercury from the tube will be forced into the cup and the air will escape until the excess of pressure is relieved. The tube is not graduated, for apparently it is not necessary to measure accurately the machine pressure. Eisenbrey[1] has shown that with a machine pressure of 50 mm. Hg the pressure in the trachea may be as low as 2.2 mm. Hg. The intratracheal pressure depends largely on the relative size of the tube to the trachea.

The safety-valve as described is satisfactory when the apparatus is used in anesthetizing patients in whom the chest wall is intact. When, however, the thorax is opened, no dependence is to be placed on records of machine pressure. The guide must be the condition of the exposed lung.

For an intratracheal tube a woven linen or silk catheter is used. This tube is introduced into the trachea through a Jackson pharyngoscope by direct inspection of the larynx. The procedure of introducing the tube is very simple.

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[1] Eisenbrey: Surg., Gynec. and Obst., xv, 715.

If the apparatus had been made sensitive, that is, if the nitrous oxid effects could have been had in concentrated form for only two breaths, the anesthetic state would have come on quickly. On the other hand, if oxygen could have been supplied at the first symptom of jactitation the anesthesia would have been far different.

The solution of the difficulty is so simple that its application can be made to any apparatus. The nitrous oxid and the oxygen should be admitted near the face-piece, proximal to the mixing-chamber. The gases when thus admitted flow back into the bag or are respired directly as desired.

If the gas is admitted during an inspiration, the patient receives it in concentrated form; if during expiration, the gas admitted is carried along with the expired air into the rebreathing chamber. When the gas is shut off the rebreathing continues as usual.

The effects of concentrated oxygen may be obtained by simply allowing it to run slowly and continuously into the apparatus.

To my knowledge, concentrated oxygen never did harm.

Concentrated nitrous oxid is required only in a light anesthetic state; that is, when the nitrous oxid content in the circulation is low. This state of light anesthesia is not likely to be confounded with any other condition, for there is no general depression as in ether. There is usually active light reflex, lid reflex, muscular rigidity and some movement, depending on the shallowness of the anesthesia.

In addition to this, it requires several respirations to saturate the alveolar capillaries with nitrous oxid, even when absolutely pure gas is used. But in my case the contents of the rebreathing bag tend to dilute the nitrous oxid admitted, thereby giving a high percentage of nitrous oxid rather than an absolutely pure nitrous oxid. The rate of diffusion of gases depends on their relative densities; the greater the difference in densities the greater the rapidity of diffusion. Consequently the warm gas in the bag and the cold gas just admitted diffuse rapidly.

Furthermore, there appears to be no clinical evidence that nitrous oxid thus administered is in any way injurious.

The apparatus used by me at the Woman's Hospital illustrates this feature.

This apparatus is a modification of the S. S. White inhaler. This inhaler is machine made, with interchangeable parts. A transparent celluloid face-piece enables one to watch the patient closely. The apparatus is always taken down after each operation and can be thoroughly cleansed and sterilized. Only one valve is used, a simple disk made of mica. The weight of the apparatus is two-thirds of Bennet's apparatus. It can also be used for a simple gas-ether anesthesia or for gas-oxygen induction followed by gas-ether.

The use of standard parts requiring small modification makes it possible to put out this device complete, including the rubber goods, bag and tubing, for the sum of twenty-five dollars.

The principle emphasized by Dr. R. C. Coburn in the location of the bag and also the position of the ether-cup have been employed, and acknowledgment is here made for many valuable suggestions gathered from the writings and remarks of Dr. Coburn.

120 Central Park South.

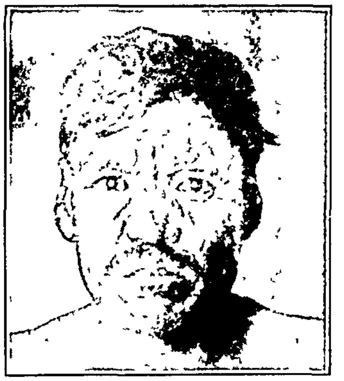
A CASE OF MACULOTUBERCULAR LEPROSY

W. R. Jamieson, M.D., El Paso, Tex.

History.—P. M., a Mexican of Indian type, aged 40, married, but for two years past separated from his wife, was referred, June 6, 1913, by Dr. J. E. Keltner.

The patient was born in Chihuahua, Mexico, and lived there until he came to El Paso eight years ago. During this time he was employed as a laborer and grave-digger at a local cemetery. Seven years ago he had rheumatic pains in his legs, accompanied with fever and swelling. He was unable to work for ten months. In the summer of 1911 he had fever, chills and rheumatic pains, which again appeared in May, 1912. Shortly after this two papules appeared on the forehead between the eyebrows; then for seven months there were no further symptoms. During this time he drank to excess. Five months ago new lesions began to appear, first on the face, then on the body. The patient says that recurrent crops of macules began to appear, successively taking up more surface and gradually becoming infiltrated and nodular. He lives with his father, mother and sister, none of whom present any symptoms of the disease.

Examination.—The patient is a well-nourished man of powerful build, with typical leonine cast of countenance. The forehead, nose and ears are studded with tubercles. Each nipple has one or two nodules. On the posterior surface of the upper arm are two infiltrated macular patches, about 6 by 3 inches in size, which are hotter to the touch than the sourrounding tissue and apparently are not anesthetic. The wrists and backs of the hands have pigmented spots, macules and a few nodules; the elbows and knees exhibit a psoriasiform eruption. The scrotum is so studded with tubercles that the eruption has an almost confluent appearance, while a few scattered nodules are on the penis. The lower limbs from the knees downward have pigmented spots, macular patches and a few scattered nodules. There is no ulceration anywhere. The heat-center is disturbed, as the patient perspires continually, particularly about the face, even when in a cool place.



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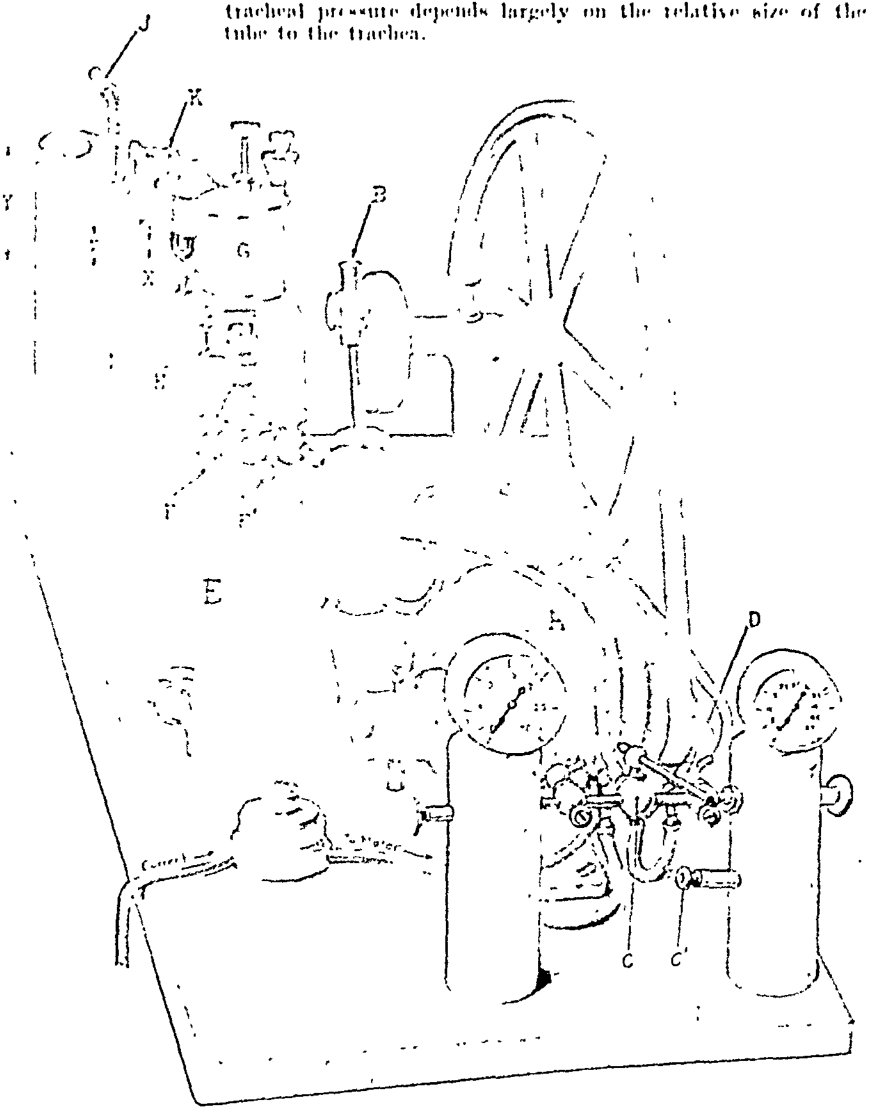

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After the patient is well anesthetized with ether and while he is in the dorsal position, the pharyngoscope is inserted. The head is not allowed to hang over the end of the table, nor is it hyperextended, as advocated by some surgeons. Either one of these maneuvers is not only unnecessary, but really complicates the procedure, especially should it be necessary to introduce the tube during an operation. Such an emergency arose in the Johns Hopkins Hospital recently. The patient had an aneurysm of the thoracic aorta which caused a partial occlusion of the trachea. The operation was the application of an aluminum band for a femoral aneurysm. The patient had had attacks of dyspnea previous to the operation, so the anesthesia was undertaken with some anxiety. A tube was not introduced into the trachea at first for fear of rupturing the thoracic aneurysm. Considerable difficulty was experienced throughout the anesthesia in obtaining a free exchange of air. Finally, the patient became cyanotic, no air passing in or out of the lungs, although the respiratory movements were violent. The air-passages were quite free as far as the larynx, so it was evident that the obstruction was below that structure. A tube was inserted into the trachea. As it reached the level of the thoracic aneurysm a large piece of thick mucus was forcibly expelled, the obstruction was immediately relieved, and the patient's breathing became tranquil. This case illustrates two things: first, the necessity, in certain cases, of having a means of relieving tracheal obstruction; second, the possibility of introducing a tube without disturbing the position of the patient or the field of operation.

Johns Hopkins Hospital.

A BURET FOR INTRASPINOUS MEDICATION

W. F. Lorenz, M.D., Mendota, Wis.

Adopting the Greiner and Friedrich three-way stop-cock, I designed a buret for intraspinous medication. The instrument has been employed in a large number of cases. It has been found very satisfactory in treating tabes by the Swift-Ellis method and in the direct administration of neosalvarsan into the spinal canal.

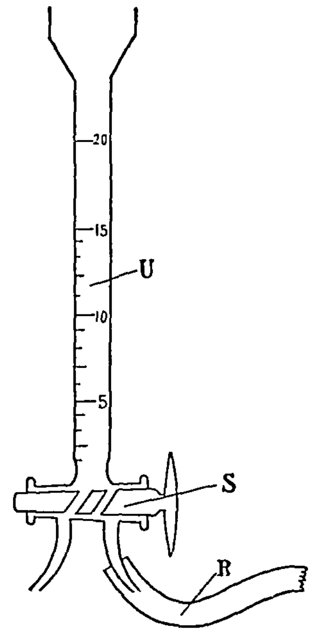


Fig. 1.—Buret for intraspinous medication.

In Figure 1, in which an effort is made to show the principle on which the buret operates, *U* indicates the upright or vertical arm. It is 28 cm. in length, 1 cm. in diameter and graduated in cubic centimeters up to 20. *S* indicates the three-way stop-cock; *R* indicates the rubber tubing which connects the instrument with the puncturing needle.

The buret is employed in the following manner: As soon as the canal is entered and fluid is obtained, the rubber tubing marked *R* is attached to the needle. The spinal fluid soon appears and gradually (the speed is entirely at the operator's choice) accumulates in the upright. This outflow can be stopped at any point by a quarter-turn at *S*. By a half-turn at *S*, the fluid in the upright is discharged at the unattached spout, where the fluid can be collected for subsequent examination. The serum or solution which is to be administered can now be poured into the upright. By turning the stop-cock *S*, the upright is again made continuous with the puncturiing needle and the return flow begins. The speed of this return can be affected by raising or lowering the instrument. The flexible rubber tubing *R* permits this change of height and consequently the speed of the returning fluid is at the disposal of the operator. When the returning fluid has reached the spout, the stop-cock is turned and all further movement of the fluid ceases.

I have used a rubber tubing 10 cm. in length of about 3 mm. caliber, containing by measurement 1 c.c. of fluid. In a number of instances a rubber tube 6 cm. in length was found perfectly satisfactory. The longer tube, however, permits greater altitude, which occasionally is necessary.

The advantages of this method are: 1. The glass instrument can be readily sterilized. 2. The fluid drawn is visible. 3. The rate of flow either way can be controlled. 4. The pressure can be quite accurately estimated according to the height to which the fluid is forced. 5. No handling of spinal fluid that returns into the canal is necessary. 6. The serum or solution to be introduced can be thoroughly mixed with the spinal fluid remaining in the upright arm previous to its return flow.

Figure 2 represents the attachment to the needle employed by myself during a lumbar puncture or intraspinous treatment. *M* indicates a metal stop-cock with a vertical outlet, to which is attached a capillary tube by means of a small piece of rubber tubing, the latter sufficiently firm to hold the capillary tube upright without support. The metal stop-cock has a universal thread at one outlet to which is attached the puncturing needle. The other outlet is for rubber tube connections when the previously described buret is employed.

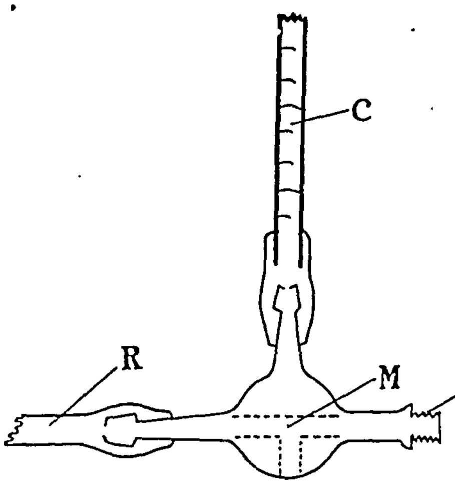


Fig. 2.—Attachment to the needle employed during a lumbar puncture or intraspinous injection.

At the time of puncture the metal stop-cock is attached to the needle. As soon as the canal is reached and fluid appears at the *R* outlet, the capillary tube is attached to the vertical arm and stop-cock *M* is given a quarter-turn; the spinal fluid then appears in the capillary tube and its height is noted. If an intraspinous treatment is to be given, the rubber tube connection *R* is made with the buret and the procedure described above is followed. After the administration, or after a simple withdrawal of spinal fluid, the reduction in pressure can be observed by simply turning stop-cock *M* until the capillary tube is again continuous with the canal.

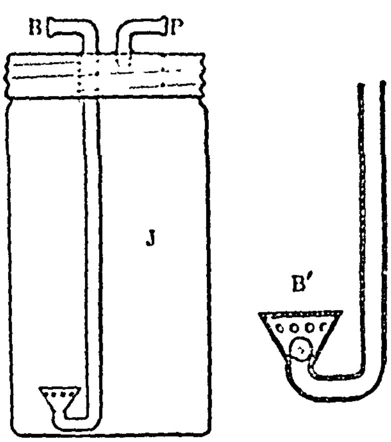
SAFEGUARDING THE ETHER AND CHLOROFORM BOTTLES

Tracy L. Fisk, M.D., New York

Anesthetist, Bronx Eye and Ear Infirmary and Union Hospital

The vapor method or insufflation method of anesthesia is gaining ground so rapidly, especially in the hospitals, that I feel called on to point out a grave and entirely needless danger connected with the use of the apparatus as now manufactured or improvised. In this city Dr. Gwathmey's three bottles constitute the most popular form of container for the anesthetic. One bottle is for chloroform, one for ether and the third is a wash, overflow and warming bottle, which contains water. A more elaborate apparatus devised by Dr. Lumbard is also used. This has four bottles, two being for ether, one for chloroform, and one for water. Since chloroform has fallen into comparative disuse, many anesthetists use a single ether bottle which they improvise by inserting a long and a short glass tube in the rubber stopper of any wide-mouthed bottle of suitable capacity.

All the before-mentioned apparatus, whether manufactured by the instrument-makers or put together by the anesthetist, has the same serious fault, namely, that if it be connected wrongly, the air-pump or bellows will drive liquid ether or chloroform down the patient's throat, up his nose or into his trachea, according to whether a hollow mouth gag, nasal tubes or an intratracheal tube be used to administer the anesthetic. This deplorable accident has resulted fatally in several cases.[1] Hence Meltzer, in describing his intratracheal insufflation apparatus, says that the ether bottle should be equipped with two short tubes only, instead of one long and one short tube. Thus there would be no tube below the surface of the ether. In Meltzer's method of intratracheal etherization such an arrangement is admirable, but in ordinary anesthesia by the vapor method (as for example in adenoid and tonsil operations in which the tubular mouth gag is used) I have found it impossible to obtain an effective concentration of ether vapor in this way. Short tubes terminating above the level of the ether will not bring about satisfactory anesthesia, except in very susceptible cases. We may be sure then that anesthetists in general will continue to use the long tube in the ether bottle. Operating room nurses, whatever their ability, are not bachelors of science or even master mechanics. It is therefore not surprising that sometimes in the hurry of preparing for an operation they connect the short glass tube to the bellows and connect the long glass tube to the mask or mouth-gag. When the intern, perhaps too tired from twenty-four-hour duty to be alert, begins to work the foot-bellows the result may be disastrous, particularly in those cases in which the patient has been anesthetized by othe methodr before the insufflation is begun.



J, ether bottle, complete; *B′*, cross section of lower end of pipe *B*, showing ball-valve.

To render such accidents impossible I have made an ether bottle or jar as follows (the materials cost only a few cents at any large hardware store):

B and *P* are two soft brass or copper tubes, each 3/16 inch in outside diameter, which pass through and are soldered to the tin or brass screw-top of the pint jar *J*, which top rests on a cork disk or washer not shown. *B*, which, when in use should be connected to the bellows, is long enough to reach nearly to the bottom of the jar, at which point it is turned upward. The end is filed or ground flat and the inside of the tube is bored out a little with a drill to make it perfectly round. The end of this tube forms the valve-seat. This is tested by holding a 3/16 bronze ball against it and attempting to blow or suck air through the pipe. If not air-tight the seat should be ground by rotating a steel ball 3/16 inch in diameter against the end of the tube, with fingers or pliers, using some fine emery and oil until perfect fit is obtained.

A conical brass cuff about ¾ inch high and ⅝ inch in diameter is now soldered to the end of pipe *B*, the large end of the cone being upward, as shown. The small end of the cone is of course just large enough to fit snugly outside of pipe *B*. The sides of the cone are perforated with about eight holes each 1/16 in diameter. The bronze ball, which has not been used for grinding purposes, is now dropped into the cone and rests snugly on the valve seat. This is tested again, and if air-tight a lid is put over it, namely, a flat disk ⅝ inch in diameter with four spurs each ¼ inch long projecting from its circumference, which, when bent down on the cone, serve as clamps. For the lid and cone 1/32 inch soft sheet brass is used, as it is easily cut with tinner's snips.

The pipe *P*, which will carry the vapor toward the patient, terminates just below the top of the jar. At this point it is completely surrounded by a brass wire gauze cage of fine mesh. This is cylindrical, about 1 inch in diameter and ¾ inch long. It prevents the ether from splashing into pipe *P* during rapid pumping. It may be said that this wire cage is unnecessary when a water-bottle is used. Many anesthetists, however, use no water-bottle. I therefore prefer to have the apparatus complete in itself so far as possible, though a water-bottle is an additional protection. When no water-bottle is used, the ether bottle should not be filled more than three-fifths full. Otherwise violent pumping might throw a little spray of ether into pipe *P*, in spite of the cage. When a water-bottle is used it is of course attached by rubber tubing to pipe *P*, and from the water-bottle another rubber tube goes to the mask. (When by mistake pipe *B* is connected to the mask and pipe *P* is connected to the bellows, the ball valve, if properly made, will prevent any ether from going to the patient, though the anesthetist should pump until the bellows burst.) A few layers of surgical gauze placed in the ether jar about the lower end of pipe *B* will greatly increase the strength of the vapor by finely dividing the air. This point is of service in anesthetizing refractory subjects.

I have described this simple apparatus in detail in the hope that many anesthetists and house surgeons who are skilful with file and soldering-iron will make their own safety ether bottles, and that instrument-makers will safeguard all the bottles which they turn out. Thus we shall stop these disgraceful accidents, few of which in all probability are reported.

1981 Southern Boulevard.

AN IMPROVED DIPHTHERIA CULTURE-TUBE *

C. C. Bass, M.D., New Orleans

Those who have occasion to take throat cultures for the diagnosis of diphtheria will no doubt appreciate some of the advantages of the tube shown in the accompanying illustration, and proposed by me to take the place of the usual outfit supplied by board of health laboratories and others for this purpose.

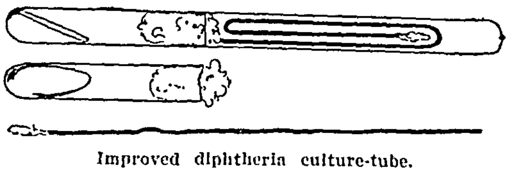
Tubes 1 cm. in diameter (outside measure) and 12 cm. long are the proper size for this purpose. The swab should be made of No 18 copper wire, 12 cm. long, and bent so that it can be placed in the tube above the cotton plug, as illustrated. Five-tenths c.c. of the Loeffler serum mixture is the proper amount to make a slanted surface about 2 cm. long in tubes of this size.

After the serum mixture, cotton plug and swab are placed in the tubes as indicated, they are hermetically sealed. This can be done rapidly with the aid of a blow-pipe or blow-torch. They are now sterilized in the proper slanting position. Finally, they are marked with a file or glass cutter near the junction of the middle and upper thirds of the length of the plug. When broken for use, one end of the tube is a small culture tube and the other end contains the swab, which can be straightened out for use.

Some of the advantages of this tube are:

1. It keeps indefinitely, and does not dry out or become infected.

2. It is small and does not occupy so much space as the usual package in one's satchel or pocket. The surface of culture material, however, is greater than is put to practical use in making ordinary throat-cultures.



Improved diphtheria culture-tube.

3. The tubes can be made up at less cost than the usual package. The fact that the medium does not deteriorate is a further source of economy.

Those likely to have occasion to take throat-cultures will find it to their advantage to add one or more of these tubes to their armamentarium in order to avoid the delay and dissatisfaction often occasioned in obtaining tubes from a drug-store or laboratory. Board of health laboratories should adopt and supply this form of tube. They could be placed on the market by manufacturers to be sold profitably for a few cents apiece.

741 Carondelet Street.

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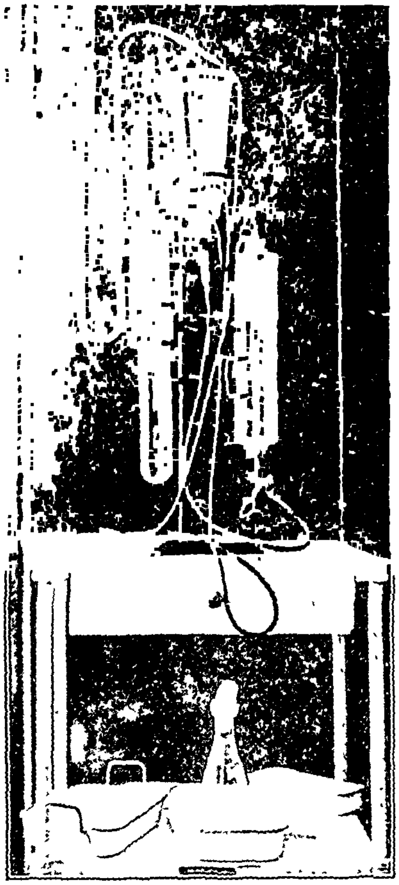
[1] Hewitt: Anesthetics, 1912, p 394. Meltzer: Keen's Surgery, 1913, vi, 970.

* From the Laboratories of Clinical Medicine and Tropical Medicine, Medical Department of the Tulane University of Louisiana.

APPARATUS FOR ARTIFICIAL PNEUMOTHORAX

Lewis Sayre Mace, M.D., San Francisco

During the past year I have had occasion to make and use several kinds of apparatus for artificial pneumothorax. The accompanying illustration shows the form and arrangement which I have found most practical and simple, while fulfilling all the requirements for this operation.



Apparatus for artificial pneumothorax.

The apparatus described by Forlanini consists essentially of a water and mercury manometer and graduated cylinders to hold the gas and displacing fluid mounted on a wooden stand. The Forlanini apparatus is difficult to obtain, expensive, and too cumbersome to be easily transported.

Many different forms of apparatus have been made by operators in this country, but the one I am describing seems to me to be the one most free from disadvantages.

This consists of a buret stand, to which is attached a water manometer, cylinder for gas and percolator above for displacing liquid. In addition to these are the wash-bottle and continuous pressure manometer, as described by me in The Journal, Nov. 1, 1913, p. 1629.

These articles—buret stand, clamps and glassware—can always be found in stock in supply-houses and require but a few minutes to assemble.

The whole apparatus can be packed in a small grip and carried to the bedside.

The glass cylinders for containing the gas presented the greatest difficulty until I found that the cylinders of the ordinary glass rolling pin were of the right size and most conveniently made with a hole at each end. These contain about 1 liter each and any number of them can be filled and carried to an operation. They are fitted with one-holed rubber stoppers at each end, and when in use the gas is displaced from below as shown in the illustration.

240 Stockton Street.

AN IMPROVED EAR-SPECULUM

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This ear-speculum gives a larger field than those in common use and therefore greater freedom to the operator. By using the ordinary ear-spoon with it, a foreign body or hardened mass of cerumen can be grasped and withdrawn. In this way it is used as a scoop.

Improved ear-speculum.

Those who do much ear work will appreciate the fact that it is easy to clean.

The Frank S. Betz Company have made me several models in aluminum, and the instrument may be obtained from them in three sizes.

165 Medford Street.

A SIMPLE INSTRUMENT FOR TRANSFUSION*

Bernard Francis McGrath, M.D., Rochester, Minn.

Although blood transmitted through tubes or aspirated and injected has been proved to be practically effective, yet is not that method which causes the nearest *approximation to* the normal vascular condition the logical one? Because of the *nature of the work, desiderata in any method of transfusion* are simplicity and rapidity in its execution; and an essential is sureness of flow. The instrument and method of application shown in Figures 1, 2 and 3 I have found practical in experimentation. The intima of the donor is applied to the intima of the recipient in a direct line, with no foreign substance at the point of union, and only the slightest locking of the forceps is necessary to prevent leakage.

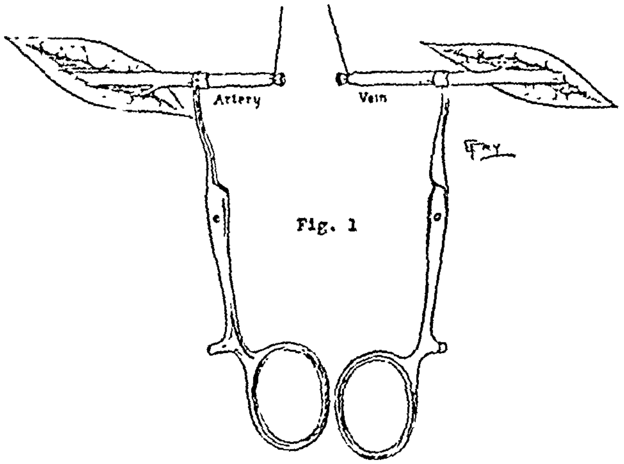

Fig. 1.—Vessels drawn through cannula by means of ends of ligatures.

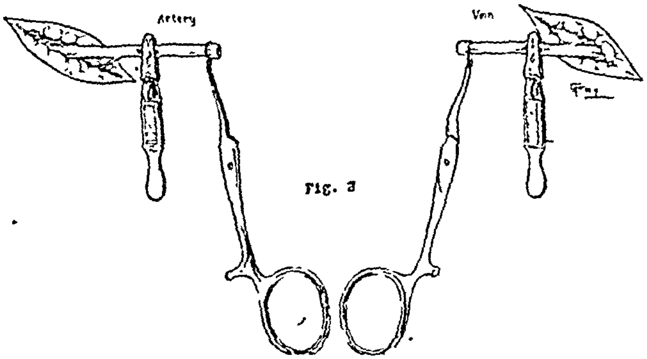

Fig. 2.—Vessels cuffed on cannula and fixed on sharp hooks.

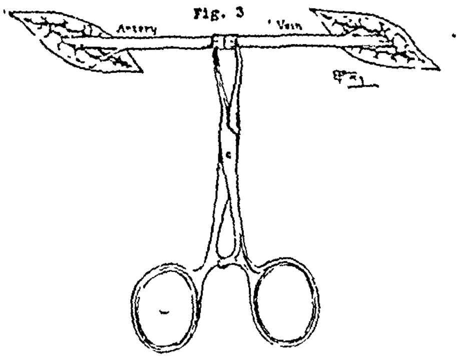

Fig. 3.—Forceps lightly clamped after allowing blood to flow from cannula.

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* From the Mayo Clinic.

Hidden Sources of Infection.—Do what we will. our health depends not only on how we live but also on how the other people of the community live.—J. W. Trask, *Pub. Health Rep.*

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

RADIUM AND RADIUM SALTS

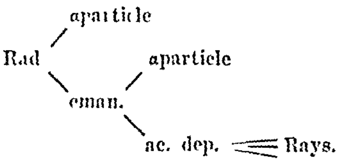
Radium is a bivalent metallic element closely related to barium. It is exceedingly reactive, making it difficult to isolate in its metallic state and after isolation to keep in a pure state, as it reacts with air, forming the oxide, nitrite and finally the carbonate. On account of this activity it is only produced in the form of its salts, principally as the bromide, chloride, sulphate and carbonate.

The most important property of radium is its radio-activity upon which depends its therapeutic value. Radio-activity is defined as "the property of spontaneously emitting radiations capable of passing through plates of metal and other substances opaque to ordinary light and having the power of discharging electrified bodies." A spontaneous disintegration of the atoms characterizes all the radio-active elements and it is in this transmutation or splitting of the atom that the rays are shot out, some being material in nature, others electrical or of the nature of light. This spontaneous transmutation of radium is going on at a regular rate, which is independent of the state of combination of radium in the molecule of its compounds.

To determine the radio-active value of radium, use is made of its property of ionizing gases. Thus when radium is allowed to act on the air in a charged gold leaf electroscope the air becomes ionized and therefore a conductor of electricity and allows the charge to leak out, causing the leaf in the electroscope to move. By observing the rate of movement of the leaf in a calibrated apparatus the radio-activity can be determined.

Quantities and concentrations of radium emanation are expressed in terms of "curies" and Mache units. A "curie" is the amount of emanation in equilibrium with 1 gram of radium; a microcurie, one millionth of a "curie," is the amount of emanation in equilibrium with 0.001 mg. radium and is equivalent to about 2,500 Mache units.

Relation of Radium, Radium Emanation and Rays.—The rays are largely derived indirectly from radium through the formation of its "active deposit," according to the following scheme:



These rays are divided into three groups, the alpha, beta and gamma, which differ in their velocity and penetrative power. The alpha and beta rays consist of minute particles of matter electrically charged and moving with a velocity almost equal to that of light. They are for the most part of relatively feeble penetrating power. The gamma rays are vibrations in the ether, very similar to x-rays, and of high penetrating power. Therapeutically the last group is the most useful.

Radium emanation is continuously given off from aqueous solutions of radium salts. It can be collected as it escapes from the solution, drawn off through the use of the mercury pump, or by other suitable means, quantitatively determined by either the alpha or gamma ray electroscope, brought into solution in water for internal or external use or be set free in an emanatorium for inhalation treatment. It may be collected into small glass containers and this used in place of the applicators described under surgical use.

Actions and Uses: Radium emanation is said to increase the excretion of uric acid in the urine and to decrease its concentration in the blood; to increase somewhat the number of red blood-corpuscles; to cause temporary leukocytosis early in the course of treatment, the mononuclear increase being relatively greater; to lead frequently through long-continued use to leukopenia, although no appreciable benefit is observed in leukemia. It is said that radium increases general metabolism, and *in vitro* activates certain enzymes, pepsin, pancreatin, rennin, autolytic ferments, tyrosinase and diastase.

It has been claimed that radium emanation is of value in all forms of non-suppurative, acute, subacute and chronic arthritis (luetic and tuberculous excepted), in chronic muscle and joint rheumatism (so-called), in arthritis deformans, in acute and chronic gout, in neuralgia, sciatica, lumbago, and in tabes dorsalis for the relief of lancinating pains. Its chief value is in the relief of pain.

Surgical Use: The efficiency of the treatment is due to the beta and gamma rays. The quantity of ray is proportional to the amount of radium element represented in the salt or the emanation. Pure gamma rays may be employed when the apparatus is surrounded by at least 3 mm. of lead. Nearly all pathologic tissues are more sensitive than normal tissues. There is, however, a wide variation in the normal tissues: e. g., the ovary and the sexual organs are very sensitive, the eye and nervous tissues very unsensitive. In skin diseases marked results are obtained with epitheliomata, birthmarks and scars.

Technic. Usually heavy doses with epitheliomata, light doses with other conditions. New growths, benign and malignant, of the pelvic organs, the breast, the neck and other parts of the body have been most favorably influenced in some cases. The growths of the mucous membrane of the mouth are quite resistant. There is a remarkable sedative effect in true neuralgias, as well as those due to tumor pressure. The dosage for internal work is heavy, "hundreds of milligrams," and always with the pure gamma rays. The technic of filtration, of length of application and of amount is still in an experimental stage.

The radium salts and the emanation can be placed in any sealed container, but preferably in glass.

Dosage. It may be administered as baths, by subcutaneous injection in the neighborhood of an involved joint (0.25 to 0.5 microcurie in 1 or 2 Cc. distilled water), by local application as compresses (5-10 microcuries), by mouth as a drink cure (in increasing doses of from 1-10 to 10 microcuries three or more times a day), by inhalation, the patient for two hours daily remaining in the emanatorium, which contains 0.0025 to 0.25 (average 0.1) microcurie per liter of air.

RADIUM CHLORIDE.—Radium chloride is the anhydrous radium salt, $RaCl_2$, of hydrochloric acid. While nearly pure radium chloride, containing 76.1 per cent. radium (Ra), is said to be obtainable, the market supply is a mixture of radium chloride and barium chloride and is sold on the basis of its radium content.

Actions and Uses: See Radium.

Dosage. See Radium.

Non-Proprietary Preparation:

Radium Chloride, Standard Chemical Co.—Radium chloride is supplied in the form of a mixture of radium chloride and barium chloride for use in radium baths, radium drinking-water and inhalatoriums. It is sold on the basis of its radium content.

Manufactured by the Standard Chemical Co., Pittsburgh, Pa. (The Radium Chemical Co., Pittsburgh, Pa.).

Pure anhydrous radium chloride occurs as a white or slightly brownish crystalline substance, soluble in water.

The presence of radium can qualitatively be demonstrated by electroscopic or by photographic methods.

The quantitative determination of radium is carried out according to the method of Rutherford and Boltwood (Rutherford's "Radioactive Substances and their Radiations").

RADIUM SULPHATE.—Radium sulphate is the anhydrous radium salt, $RaSO_4$, of sulphuric acid. While nearly pure radium sulphate, containing 70.2 per cent. (Ra), is said to be obtainable, the market supply is a mixture of radium sulphate and barium sulphate and is sold on the basis of its radium content.

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Dosage. See Radium.

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[illegible] nical Co., Pittsburgh, Pa.
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APPARATUS FOR ARTIFICIAL PNEUMOTHORAX

Lewis Sayre Mace, M.D., San Francisco

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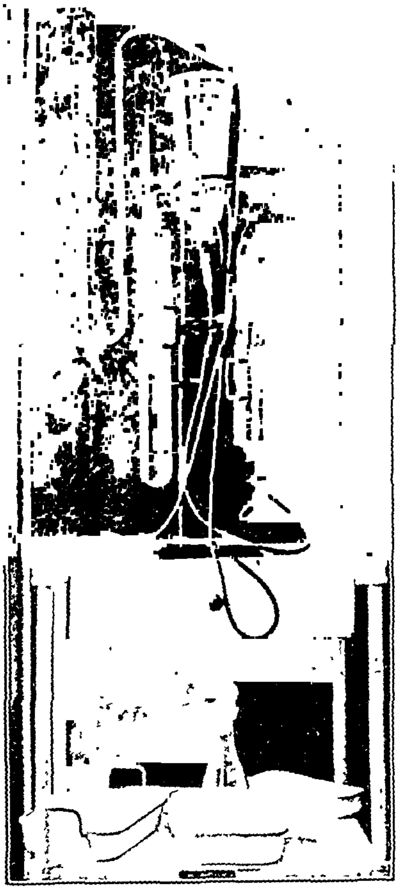

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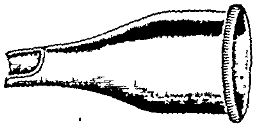

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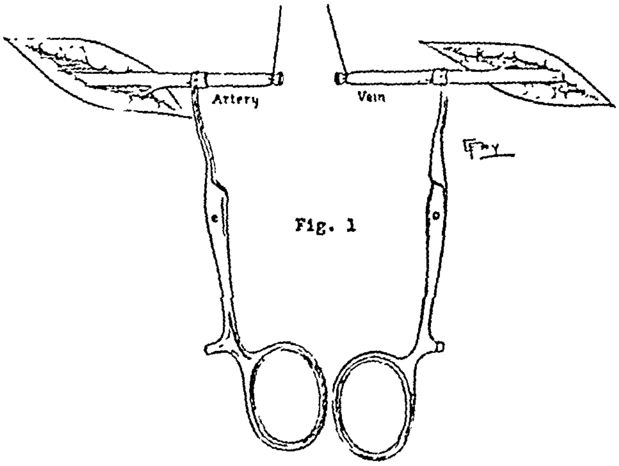

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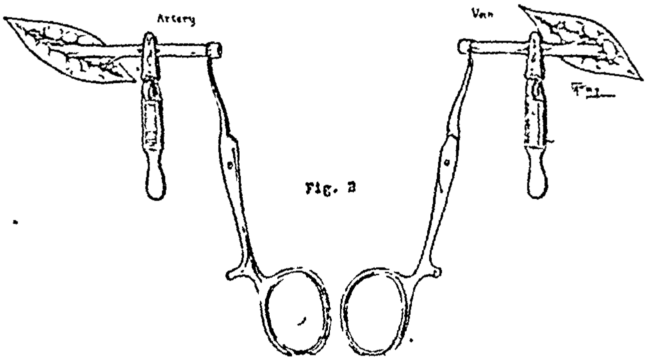

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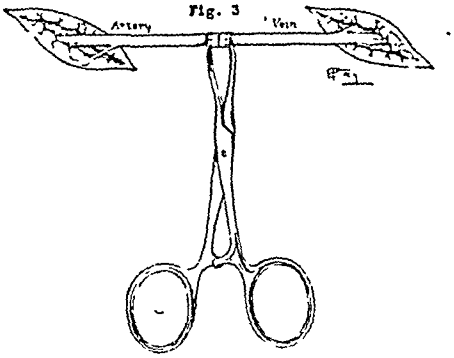

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New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

RADIUM AND RADIUM SALTS

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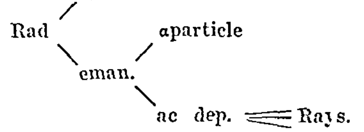

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The presence of radium can qualitatively be demonstrated by electroscopic or by photographic methods

The quantitative determination of radium is carried out according to the method of Rutherford and Boltwood (Rutherford's "Radioactive Substances and their Radiations").

RADIUM SULPHATE.—Radium sulphate is the anhydrous radium salt, $RaSO_4$, of sulphuric acid. While nearly pure radium sulphate, containing 70.2 per cent. (Ra), is said to be obtainable, the market supply is a mixture of radium sulphate and barium sulphate and is sold on the basis of its radium content

Actions and Uses: See Radium.

Dosage: See Radium.

Non-Proprietary Preparation:

Radium Sulphate, Standard Chemical Co.—Radium sulphate supplied in the form of a mixture of radium sulphate and barium sulphate for use in applicators It is sold on the basis of its radium content

Manufactured by the Standard Chemical Co., Pittsburgh, Pa (The Radium Chemical Co., Pittsburgh, Pa.).

Pure radium sulphate occurs as a white substance insoluble *in water and dilute acids*

The presence of radium may be qualitatively determined by electroscopic or by photographic means

The radium content may be determined as in the case of radium chloride.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JANUARY 3, 1914

Recently the bona-fide circulation of The Journal of the American Medical Association reached and passed the 60,000 mark. This does not include sample copies; it comprises only the actual circulation. Compared with that of lay weekly publications this would not be considered remarkable; but for a scientific or class publication, especially with such a limited clientele as the medical profession, this circulation must be regarded as very large. It is much more than double the combined paid circulation of all other weekly medical journals in this country, and is very nearly equal to the total paid circulation of all other medical weeklies published in the English language. At the present time approximately 39,000 subscribers are Fellows — until recently called "members" — of the American Medical Association. The remaining subscribers alone, over 20,000, equal the total number of paid subscribers to the four other medical weeklies in the United States. Heretofore the number given on the title-page of The Journal week by week has been much below the actual circulation. Beginning this week, the figures given will represent the actual number of copies printed, and will include sample copies and also those held as reserves.

THE LESSONS OF AN EXPERIMENT IN THE SUPPRESSION OF VENEREAL DISEASES

The propaganda for the suppression of venereal disease has probably departed further from the rules of practical experience, and hesitated more to adopt or advocate measures which have demonstrated their usefulness in allied directions, than has the agitation for the control of any other chronic infectious disorder of man. It is becoming increasingly more obvious that campaigns of public education, important and directive as they have been proved to be in all movements for the general welfare, cannot of themselves stamp out a disease that rivals tuberculosis as a cause of incapacity, sickness and misery. Now that the causes and mode of transmission of syphilis are known and modern discoveries have afforded such satisfactory aids to accurate diagnosis, it is time to give greater latitude to the recommendations of medical science; for it is becoming more and more evident that the problems can be solved only by the joint efforts of the publicist, the statesman and the physician. In an interesting account of the remarkable piece of work which has been done in the state of Victoria, Australia, and particularly at Melbourne, Dr. James W. Barrett[1] has indicated why medical men have encountered so much difficulty in combating some of the contagious diseases. The management of these diseases has always been complicated by the admixture of practical medicine with morality. Medical men dislike vice, Dr. Barrett rightly says, perhaps rather more than most persons, because they see so much of its nauseous side; but medical men as such are not teachers of morality; their primary duty is to prevent and cure disease.

A right understanding of the facts is a necessary foundation for public action. The first step was to obtain first-hand evidence of the actual distribution and incidence of venereal diseases. For twelve months syphilis was made a compulsorily notifiable disease in *an area of ten miles' radius from the general post-office* in Melbourne. This plan, admittedly imperfect, despite the fact that no names were given, and that Wassermann tests were conducted without charge and a fee was paid to any practitioner for reporting the cases and collecting blood, aroused an unexpectedly cordial response in the profession as a whole. At the end of the year, out of 5,000 cases reported and tested, 3,167 proved to be syphilitic. In another of these public experiments at the Victorian Eye and Ear Hospital, 13.3 per cent. out of 550 patients examined, irrespective of the disease or condition which had caused them to visit the institution, were syphilitic. Such data indicating the incidence of syphilis in a considerable fraction of a population, taken at random and systematically published in unexpurgated form, furnished convincing evidence to demonstrate the magnitude of the problem.

As the outcome of these findings it was decided by a conference of the various interested committees of the laity and the medical profession not to advocate any contagious disease act to remedy the situation, but to attack it in another manner. Wards were equipped by the government in at least two hospitals in Melbourne for the treatment of persons of any class, except prostitutes, who were suffering from venereal diseases in contagious forms. The object was not so much solicitude for the sufferers as a desire to prevent further infection. The profession was circularized and asked to send patients for treatment and advice. The Australian government has further arranged with the University of Melbourne for the free application of the Wassermann test to 2,000 hospital patients a year, and to all others at a very low fee. Lastly, it is proposed to introduce a modification of an act already in force in New South Wales to provide that any person sentenced to a term of imprisonment for any cause, if found to be suffering from contagious venereal disease, can be detained until his release is free from risk to other persons.

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[1] Barrett, J. W.: The Suppression of Venereal Diseases: An Australian Experiment, Bedrock, 1913, ii, 102.

In contrast with many other hastily conceived plans of procedure, the entire conduct of this Australian movement strikes one as eminently intelligent, temperate and efficient. The attack along medical lines has followed a comprehensive investigation into the real occasion for such an undertaking. All the agencies for the removal of social excrescences and the gradual recasting of social relationships have cooperated under the dominant influence of medical leadership.

HEXAMETHYLENAMIN

The well-established fact that hexamethylenamin acts in some cases as an efficient urinary antiseptic led to its wide use for the prophylaxis of typhoid cystitis and other infections of the genito-urinary tract. The first publications of Nicolaier showed that this drug decomposes in acid urines with the formation of formaldehyd, which then exerts a marked antiseptic action. When Crowe and others showed that hexamethylenamin passes into all the tissues and body fluids, the hasty generalization was made that it would act as efficiently against infection in other organs as it did in the bladder. This deduction was apparently supported by clinical observations, although some unsuccessful cases made the results indecisive.

Laboratory experiments show that the activity of hexamethylenamin depends on its decomposition into formaldehyd and ammonia. This decomposition takes place only in an acid medium. How, then, can hexamethylenamin have an antiseptic action in the tissues, which are alkaline in reaction?

An attempt was made to solve this question by the application of tests for formaldehyd directly to the body fluids after the administration of hexamethylenamin. Unfortunately, some investigators employed tests that did not differentiate between hexamethylenamin and formaldehyd, so that their results were worthless. The paper of Burnham was especially serviceable in calling attention to this point. When tests were used which respond to formaldehyd alone, his results, and incidentally those of others who preceded and succeeded him, were negative except as to the urine. They showed that formaldehyd was not present in the other body fluids. The tests themselves, however, were not always convincing; and even if their correctness was granted, they were not absolutely decisive. It might be objected that the formaldehyd disappeared about as rapidly as it was formed. This objection was answered by the work of Smith and the later investigations of Hanzlik and Collins,[1] who proved that the liberation of formaldehyd can occur only in fluids having an acid reaction according to modern indicators or by the electrolytic method. Smith showed that this holds true for urines, and Hanzlik and Collins have proved it further for all body fluids. A true acid reaction occurs only in the urine and the gastric juice; the blood, cerebrospinal fluid, mucus, exudates, etc., are not acid. Therefore, no formaldehyd can be liberated in these fluids.

Another objection has been disposed of by the work of *Hanzlik and Collins*. It has been supposed that hexamethylenamin might act as an antiseptic independently of the formation of formaldehyd; these observers found that on adding this drug to various liquids inoculated with bacteria, an antiseptic effect was obtained only when a sufficient quantity of formaldehyd was liberated. If the liberation of formaldehyd in the culture mediums was prevented, even very high concentrations of hexamethylenamin were ineffective.

There remains a third theoretical possibility to be investigated. Hanzlik and Collins suggest that the reaction of the body-fluids might change to acid in disease. This is, however, highly improbable. It may therefore be affirmed that under ordinary conditions the only part of the body in which hexamethylenamin may be expected to exert an antiseptic action is the urinary tract. Extensions of the use of hexamethylenamin therapy to other organs must be abandoned as useless. Even as a urinary antiseptic, the drug is useless unless the urine is acid; if it is not already acid, sodium acid phosphate should be administered to render it so. Substances which tend to render urine alkaline are physiologically incompatible with hexamethylenamin, and, if administered in sufficient quantity to overcome the acidity of the urine, will entirely destroy the effect of the latter drug. Sodium or potassium citrate or acetate may be used in this way to stop the action of the drug if urinary irritation appears.

STARVATION METABOLISM IN INFANCY

For many years the study of the transformation of matter and energy during hunger has commanded attention because of the belief that statistics thus derived represent the basal needs, so to speak, of the organism, and furnish an index to its fundamental requirements. The expenditures of the body during periods when food is not supplied were quite naturally regarded as a measure of the real wear and tear and the demands of maintenance, independent of external factors like food. They were believed to determine in a precisely estimated way what contributions the fundamental up-keep of the human machine calls for.

More recently, numerous careful investigations have placed new interpretations on the nutritive phenomena of inanition. They have forced to our attention the fact that metabolism in starvation shows deviations from the nutritive exchanges in ordinary conditions of health and adequate diet. Indeed, it is no stretch of truth to designate certain features of hunger metabolism as akin to those commonly regarded as pathologic in type. We need only recall here the acidosis phenomena which speedily manifest themselves when an individual is completely deprived of food. The full significance of all that is involved still needs to be learned; and this deserves emphasis in view of the wide-spread propaganda for so-called fasting cures fostered by untutored faddists and promulgated by all manner of publications that catch the public eye. The harm that is threatened needs equally well to be brought to popular notice, despite the fact, which may freely be admitted, that enforced starvation can have useful applications in therapy. The advisability of a measure not infrequently depends on the person who is to administer it; and for the present dietotherapy is surely safer in the hands of experts in nutrition than in those of routine magazine writers.

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[1] Hanzlik, Paul J., and Collins, R. J.: Hexamethylenamin: the Liberation of Formaldehyd, and the Antiseptic Efficiency under Different Chemical and Biological Conditions, Arch. Int. Med., November, 1913, p. 578.

The institution of starvation, either complete or partial, has obtained some recognition of late in the clinic of the disorders of early infancy. If opinion has been somewhat divided among the experts as to its advantages or counter-indications, this is doubtless due to the fact that comparatively little has hitherto been known in regard to the hunger metabolism of normal individuals at this early period of life. The rapidly progressing modern pediatrics has appreciated the gap in our knowledge and is seeking to fill it with first-hand information. The work of Schlossmann's clinic in Düsseldorf may be singled out to illustrate the newer acquisitions in this field.[1] It is made evident by the most recent of these studies that the loss of nitrogen in starving normal infants is of about the same order of magnitude, per kilogram of body weight, as that of adults during inanition. The individual variations exhibit a comparable range. In infants the protein metabolism of starvation appears to be pronouncedly dominated by the preceding type of nutrition. If this has been rich in albuminous foodstuffs, the nitrogen output in the early days of starvation will be correspondingly high. This is no new fact in the science of nutrition; but it is worthy of emphasis here because of its practical aspects in the case of infants. Breast-fed children usually transform less protein than do infants on "artificial" dietaries; they likewise disintegrate less of their own protein when starvation is inaugurated. Schlossmann maintains that if, for any reason whatever, a breast-fed child is forced to starve, it will be likely to survive the hunger with far less loss and nutritive damage than artificially nourished infants would undergo.

The excretion of the ketone substances—acetone, beta-oxybutyric acid—appears to be comparable, in the case of infants, to what obtains in adult man. There is no doubt that lack of carbohydrate, i. e., carbohydrate starvation, is the underlying cause. In other details, too, the hunger metabolism of infants at rest tallies with what previous physiologic studies lead one to expect. Such facts must form the basis for any judgment as to the utility or consequences of procedures which involve starvation during infancy.

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[1] *Schlossmann, A., and Murschauer, H.*: Der Stoffwechsel des Säuglings im Hunger, Biochem. Ztschr., 1913, lvi, 356. Czerny: *Ueber die Bedeutung der Inanition bei Ernährungsstörungen der Säuglinge*, Samml. zwangl. Abhandl. a. d. Geb. d. Verdauungs- u. Stoffwechs-Krankh., 1911, iii, No. 2; Langstein and Benfey: Die Einwirkung des Hungers auf den Säuglingsorganismus (Uebersichts-*referat), Med. Klin., 1911, No. 50, p. 1941*; Rosenstern, Iwan: Ueber Inanition im Säuglingsalter, Ergebn. d. inn. Med. u. Kinderh., 1911, vii. Further references are furnished in the bibliographies of the American Journal of Diseases of Children.

ABERRANT EPITHELIAL STRUCTURES IN THE CORTEX OF THE KIDNEY AND THEIR RELATION TO THE SO-CALLED HYPERNEPHROMA

The so-called hypernephroma is undoubtedly the most frequent malignant tumor in the kidneys. Until quite recently these tumors were regarded as originating in aberrant remnants of adrenal tissue most commonly believed to occur immediately under the capsule of the kidney. This view was advanced by Grawitz in 1883, and the tumors in question are frequently referred to as "Grawitz tumors." This conception of the origin of these tumors was based largely on the similarity between the tumor cells and the cells in the adrenal cortex. Specks and patches of a yellowish or grayish-yellow paler than the renal cortex are frequently found in the surface of the kidney, and these structures are held, usually, to be bits of misplaced adrenal tissue. Renal hypernephromas consequently have been regarded as a good illustration of Cohnheim's supposition that malignant tumors develop from misplaced embryonal matrix, a conception of which we hear much less now than we did some years ago.

Of late the view of Grawitz in regard to the nature of the so-called hypernephromas has been attacked by various men. Thus Stoerk pointed out that such growths do not occur in the adrenals, the primary tumors of which are of different structure, and that the most common site of the Grawitz tumor is the middle zone of the kidney; whereas the supposed adrenal rests most often occur near the upper pole of the kidney. Wilson and Willis[1] regard the hypernephromas as developing in rests of nephrogenic tissue; they base this conclusion on elaborate embryologic considerations, and Glynn[2] emphasized that, while abnormal sexual development is frequently present in cases of tumors of the adrenal cortex, it is not observed in cases of Grawitz tumor.

In view of all this opposition to Grawitz' explanation it becomes a matter of importance to subject the peculiar patches in the renal cortex just mentioned to closer study in order to understand their true nature better, and from Dunn's[3] observations on eighty consecutive post-mortems we learn that such masses are, in the first place, not at all infrequent (as is already known), and, furthermore, that they represent three distinct types, namely, true adrenal rests, adenopapillary tissue and papilliferous cysts. The cells in the latter in particular resemble the bloated cells of the Grawitz tumor and, while malignant growths may be conceived to arise from any and all of these formations, "the papilliferous, from their peculiar histologic features, suggest themselves as the most probable origin of tumors of the Grawitz type" (Dunn). These cysts appear to originate from the tissue of the kidney and in one case Dunn was able to trace a definite connection with a convoluted tubule.

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[1] Wilson and Willis: Jour. Med. Research, 1911, xxiv, 73.

[2] Glynn, E. E.: Adrenal Cortex, Its Rests and Tumors; Its Relation to Other Ductless Glands and Especially to Sex, Quart. Jour. Med., 1912, v, 157; abstr., The Journal A. M. A., Dec. 7, 1912 p. 2097.

[3] Dunn: Jour. Path. and Bacteriol., 1913, xvii, 515.

These results indicate that further systematic studies of so-called adrenal rests in the kidneys are desirable, and that additional insight may be secured thereby into the nature and origin of malignant tumors of the kidney.

PHTHISIOPHOBIA IN THE LIGHT OF RECENT DEVELOPMENTS IN TUBERCULOSIS INVESTIGATIONS

With the application of our growing knowledge of the immunologic reactions to tuberculosis, and especially the influence of allergy on the tuberculous process, have come new concepts and revivals or transformations of old ones. The studies of von Pirquet, Roemer and Hamburger, the workers in the laboratories at Saranac Lake, Calmette and others, have thrown a new light on the relation of allergy to tuberculosis and the nature of reinfection and superinfection. They show that what has been recognized clinically as a lowered resistance to tuberculosis, as after measles, influenza, etc., is undoubtedly associated with the condition of allergy of the person. Thus, von Pirquet found that in measles there may be a disappearance of an existing tuberculin sensitiveness during the height of the acute disease, with a return of the reaction later. Now since practically all persons become infected with tuberculosis in childhood, and become allergic to the tubercle bacillus so that they give positive tuberculin reactions, it is evident that the existence of the original latent or healed lesion and the resulting allergic condition must profoundly modify subsequent infection with new strains of tubercle bacilli which are introduced from time to time during the rest of the person's life.

Many experimenters have shown that a previous infection does serve to protect against infection with new lots of tubercle bacilli, and this principle is now generally accepted. Thus, a guinea-pig already infected with tubercle bacilli successfully resists subsequent local inoculations, not only with tubercle bacilli from outside sources but also with bacilli cultivated from its own lesions. As to the influence of this principle on human tuberculosis, and especially on the danger of infection from consumptives, we would commend to our readers an address on this subject by Dr. E. R. Baldwin of Saranac Lake.[1] He points out the need of applying a check to phthisiophobia, which "has had no check from the time the knowledge of the bacillus was popularized. Cornet's dust experiments first gave the impulse to a fear, followed by Flügge's droplet infection, which has aggravated the solicitude felt by physicians and nurses, and which has been gradually spread to the laity." Not until the recent researches, briefly considered in the foregoing, have we had a proper understanding of the great power of defense of which the average adult is capable, although not a few careful clinical observers have pointed out evidence that the constantly exposed husbands and wives with consumptive mates show no such morbidity as a high degree of contagiousness would necessarily produce, and the incidence of tuberculosis in physicians and nurses in tuberculosis hospitals is not indicative of a ready infection with the omnipresent bacilli.

Baldwin says that we are reasonably sure of the following: 1. Most adults have received some tuberculous infection. 2. From this they have acquired a variable degree of specific allergy. 3. During ordinary health the tissues repel tubercle bacilli, partly, at least, with the aid of this specific allergy. 4. Reinfection of adults is mostly a superinfection coming from the existing lesions, and due to disease, trauma, overstrain or any cause of "lowered vitality," whatever that may mean. 5. "Finally, as a corollary, adults are very little endangered by close contact with open tuberculosis, and not at all in ordinary association. Childhood is the time of infection, youth the time of superinfection, and that from extension of the primary disease. Qualify these statements as we may, it is time for a reaction against the extreme ideas of infection now prevailing. There has been too much read into popular literature by health boards and lectures that has no sound basis in facts, and it needs to be dropped out or revised. More protection of children and better hygiene for adults are logically demanded, but beyond this the preachments about the danger of infection to adults in the present state of society are without justification from an experimental standpoint." The statements which we have quoted represent not one man's views, but what seems to be the growing conviction of many of the most progressive and thoughtful students of tuberculosis at the present time.

Current Comment

DEFICIENT OXIDATION AND NARCOSIS

We have in the past discussed the broad and mooted question as to whether the manifestations of narcosis are due to a sort of asphyxiation of the cells — in other words whether deficient or decreased oxidative capacity can explain the familiar narcotic phenomena of the nervous system.[1] The view that organic narcotics and anesthetics of the volatile type bring about an insensibility or decreased irritability toward stimuli primarily by depressing the rate of oxidative changes in the tissues has been vigorously defended. Equally trenchant have been the criticisms directed against the theory. We mentioned some of these in referring to Winterstein's important observation that certain parasitic animals which are capable of undergoing an existence in the absence of respired oxygen are nevertheless readily narcotized by the volatile anesthetics — a fact which would be inexplicable on the assumption that narcosis is due to an inhibition of oxidation.[2] Further convincing evidence has now been furnished by Loeb and Wasteneys.[3] In varied selected experiments on lower forms in which the numerous accessory disturbing factors offer less interference in drawing a clear-cut conclusion, the investigators of the Rockefeller Institute have shown that conditions of profound narcosis can be induced without any noteworthy diminution of the normal rate of oxidation for the species. Furthermore, though an inhibition of motility and irritability to stimuli can be brought about by decreasing the oxidative changes—for example, by cyanids—the narcotic phenomena are not manifested by this means until the oxidative functions are lowered far beyond the point reached in ordinary narcosis with substances like chloroform, ether, alcohols, chloral hydrate, urethane, etc. Conversely, in order to depress oxidation these compounds must be administered in concentrations far beyond that called for in the purposes of narcosis. The asphyxial theory of narcosis seems doomed.

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[1] Baldwin, E. R.: Allergy and Reinfection in Tuberculosis. Bull. Johns Hopkins Hosp., 1913, xxiv, 220.

DEATHS OF CHILDREN BY BURNING

While fatalities from burning are but a minor fraction of the mortality from preventable causes, they are sufficiently numerous to warrant an attempt to prevent them. This is especially true of deaths of children from burning. In this country there are few available correct statistics on the subject. In England, however, it is different; there the statistics are not only dependable, but available. Dr. Brend[4] has compiled and analyzed the data regarding deaths of children from burning. From the years 1906 to 1911 he found that up to the age of 1 there were 214 boys and 234 girls burned; from 1 to 4, there were 1,663 boys and 1,818 girls; from 4 to 5, 368 boys and 775 girls; from 5 to 10, 389 boys and 1,427 girls, and from 10 to 20, 80 boys and 630 girls. It is at once evident that there is a marked difference between the mortality of boys and girls. This difference is probably due to the different type of clothing worn by the two sexes. Up to about the ages of 2 and 3, boys and girls are dressed alike. From 3 to 4 the boys put on the simpler male attire and there is an abrupt and marked fall in the mortality from burning. There has been much condemnation of the material known as flannelet, which is a very inflammable cloth, although from the figures quoted it would seem that it is not so much the material as the style of clothing which leads to loss of life. For other reasons as well, namely, freedom of movement, better hygiene and general cost of clothing, there would seem to be a demand for a further simplification of the manner of dressing girls, particularly those of the younger ages.

HYDROXYPHENYLETHYLAMIN — AN ANIMAL POISON

The pharmacologic investigation of synthetic aromatic amins has been greatly stimulated by the discovery of the chemical structure of epinephrin and the demonstration that it belongs in this group of organic compounds. The systematic testing of numerous related and suitably constituted amins has shown that in general they exhibit pressor effects on the circulation and other physiologic phenomena characteristic of the effective agent of the adrenals, their activity increasing according as they approach the chemical structure of epinephrin. One of the most interesting of all these newly investigated products is hydroxyphenylethylamin, which can readily be prepared from the protein cleavage derivative tyrosin by splitting off carbon dioxid from the molecule of the latter. This reaction can be brought about by putrefactive bacteria; and in truth hydroxyphenylethylamin has been detected among the products of the putrefaction of proteins and identified by Barger among the pressor principles yielded by putrid meat.[1] The same base was found by Barger to be responsible for some of the characteristic physiologic activities of ergot preparations.[2] Unexpected evidence that hydroxyphenylethylamin can actually arise as a product of metabolic transformation in animal organisms has arisen in the unique discovery by Henze in Naples that the poison secreted by certain cephalopods is in fact this aromatic organic derivative of tyrosin.[3] It is well known that in catching their prey cephalopods make use of a highly active poison which is produced by the so-called salivary glands of these invertebrates. Crabs, which they are prone to attack, are speedily impaired by this glandular poison, which was formerly erroneously believed to be of the nature of a toxalbumin. Nothing could be more illustrative of the great progress of biochemistry in recent years than the interesting relationships which it has revealed. Meat rots and yields a putrefactive product that is toxic, that is, produces with small doses marked physiologic manifestations; ergot develops as the result of growth and furnishes the same compound, long devoted to pharmacologic uses; and the glandular tissues of animals which poison their prey secrete it likewise. In each case we may easily assume that it has arisen by simple chemical reaction from the proteins, the fundamental step being imitated by the chemist when he in turn prepares the same substance in his laboratory from the innocuous tyrosin. Our poisons and our drugs are in many instances the close relatives of the harmless compounds that represent the intermediate steps in the daily routine of metabolism.

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[1] A View of Anesthesia, editorial, THE JOURNAL A. M. A., Sept. 20, 1913, p. 968.

[2] Winterstein, H.: Biochem. Ztschr. 1913, li, 143.

[3] Loeb, J., and Wasteneys, H.: Narkose und Sauerstoffverbrauch, Biochem. Ztschr., 1913, lvi, 295.

[4] Brend, W. A.: Lancet, London, 1913, ii, 1321.

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[1] Barger, G., and Walpole, G. S.: Isolation of the Pressor Principles of Putrid Meat, Jour. Physiol., 1908, xxxviii, 341.

[2] Barger, G., and Dale, H. H.: Ueber Mutterkorn, Arch. f. exper. Path. u. Pharmakol., 1909, lxi, 113.

[3] Henze, M.: p-Oxyphenyläthylamin, das Speicheldrüsengift der Cephalopoden, Ztschr. f. physiol. Chem., 1913, lxxxvii, 51.

FOREIGN COMMENT ON THE FRIEDMANN TREATMENT

German medical journals seldom express opinions on any question, and still less frequently, for some reason, on therapeutics. It is, therefore, worthy of note that the Friedmann remedy has called forth a warning from one journal, the *Therapie der Gegenwart.* A recent issue[1] contains a critical review by F. Klemperer, of the so-called clinic conducted by those favoring the Friedmann treatment, a report of which has been widely circulated in this country. In connection with the publication of Klemperer's article, the editor says:

> I have received a large number of inquiries asking whether I advise the use of Friedmann's remedy in general practice. I consider it a duty, therefore, not to refrain from stating my personal stand on the question. According to my opinion, general practitioners as yet have no occasion to use the new remedy in their practice. The method can by no means be regarded as having been tested; all the commendation of it proceeds from one side. Those who lived through the tuberculin era and have watched the development of tuberculin since will tranquilly wait. Personally I do not regard its theoretical foundation as by any means sufficiently established. I do not regard it as necessary to explain my theoretical hesitation any further, the more so as the decision as to the value or worthlessness of the remedy will in a reasonable time be determined by the therapeutic trials, which will now be instituted everywhere in hospitals and clinics. The task of trying out the new remedy under calm observation belongs to these institutions. It is not yet ripe for general practice, and the general practitioner can incur no reproach if he holds aloof for the present.

In view of the extreme reluctance on the part of German journals to say anything derogatory regarding German products, the caution quoted above is significant.

PARTICIPANTS IN FRAUD

This is from an editorial, "Square Deal Advertising," in the Chicago *Tribune,* December 19:

> The paper that sells publicity to a known fraud is a partner in the fraud, and deserves to be punished for its part in the fraudulent transactions in the profits of which it participates. Against their joint deceit the public ought to be protected.

This quotation is respectfully referred to the two hundred and fifty medical journals in the United States that "sell publicity" to manufacturers of products that have been shown to be absolute frauds.

HONEST CRITICISM WELCOME

It sometimes happens that a good paper offered for publication is returned and one not so good is accepted. Often, to the minds of individual readers, an editorial strikes a discordant note. The proceedings of one society seem to receive undue attention, and those of another, perhaps more important, too little. The abstracters for the Current Literature Department, examining hundreds of journals monthly, at times slight an issue of one journal and give disproportionate space to another. All these things at times occur, for none among us is exempt from his share of human imperfection. Almost as soon as we have noted our own slip or error, the criticisms begin to reach us, some with harsh censure and satire, and some with helpful and kindly words. Even from the bitter husk of the hastiest and most virulent invective we try to extract the kernel—if there be any—of sound criticism. But, like the rest of humankind, we give most heed to and gain most help from fair-minded criticism, written in a kindly spirit of helpfulness and with an evident desire to aid. To the writers of such comments we owe hearty thanks. They are an inspiration to work and a stimulus for continued endeavor to do the best we can to meet the needs of all.

Medical News

ALABAMA

Personal.—Dr. Samuel F. Nash, surgeon of the Southern Steel Company at Virginia Mines, has resigned and located at Bessemer.——Dr. Francis A. Webb, Calvert, who has been ill at the Mobile Infirmary, is reported to be improving.

Hospital News.—Cunningham Hospital, Ensley, has been leased by the Tennessee Coal, Iron and Railroad Company which will employ its own physicians and conduct the institution.——Plans for the erection of a hospital at Ensley were decided on November 28 at a meeting of physicians at which a hospital organization was formed with Dr. William H. Wynne as chairman and Dr. Merit D. Clements as secretary.

New Officers.—Walker County Medical Society at Jasper, December 12: president, Dr. Allen M. Waldrop, Cordova: secretary-treasurer, Dr. James L. Sowell, Jasper.——Mobile County Medical Society at Mobile, December 13: president, Dr. Ruffin A. Wright; secretary-treasurer, Willis W. Scales (reelected), both of Mobile.——Marengo County Medical Society at Linden, December 13: president, Dr. James B. Whitfield, Demopolis; secretary, Dr. Guy J. Dunning, Linden.——Colbert County Medical Society at Tuscumbia, December 13: president, Dr. William H. Greer; secretary-treasurer, Dr. Julius T. Haney, both of Tuscumbia.——Bibb County Medical Association at Centerville, December 12: president, Dr. M. C. Thomas, West Blockton; secretary-treasurer, Dr. Horace L. Cunningham, Centerville.——Barbour County Medical Association at Eufaula, December 12: president, Dr. W. R. Belcher, Baker Hill; secretary-treasurer, Dr. Joseph W. Fenn, Eufaula (reelected).——Chambers County Medical Society at Lafayette, December 11: president, Dr. Benjamin F. Rea, Jr. (reelected).

ILLINOIS

Society Scores Quacks.—At the regular bimonthly meeting of the Rock Island Medical Society held in Rock Island, December 9, resolutions were adopted endorsing the publicity campaign directed against quacks and quackery and disapproving of the publishing of physicians' names in connection with accident, operations and other medical work.

Personal.—Dr. Daniel Lichty has been elected president, Dr. Harry A. Pattison, secretary, and Dr. William E. Park, treasurer of the Rockford Public Tuberculosis Hospital trustees.——A farewell reception was given Dr. and Mrs. George A. Zeller at the Peoria State Hospital, December 18.——Dr. Fred G. Warner, Grafton, has been appointed surgeon in Jersey County for the Mississippi Power and Transmission Company.

State Health Board Attorney Shot.—The members and officials of the State Board of Health have frequently been threatened, but on December 4, Charles Alling, attorney for the board, was shot in his office in Chicago by a man who had been convicted three times of practicing medicine without a license and who afterward killed himself. Mr. Alling's injuries necessitated the removal of the right eye and he is now said to be doing well.

Civil Service Commission Medical Board.—The State Civil Service Commission has named a permanent medical board to have charge of its medical examinations in the future. The board consists of Dr. James B. Herrick, Chicago, chairman; Drs. Thomas H. Culhane, Rockford, and Dean D. Lewis, Chicago, surgery; Drs. George F. Suker and William D. Napheys, Chicago, medicine; Dr. Ludvig Hektoen, Chicago, pathologist, and Drs. James C. Gill and L. Harrison Mettler, Chicago, and Harold D. Singer, Hospital, nervous and mental diseases.

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[1] December, 1913, p. 537.

New Officers.—Alexander County Medical Society at Cairo, December 18: president, Dr. Samuel Dodds; secretary-treasurer, Dr. James W. Dunn, both of Cairo.——Danville Physicians' Club, December 18: president, Dr. Elbert E. Clark; secretary-treasurer, Dr. Otto H. Crist.——Streator Medical Association, December 18: president, Dr. George K. Wilson; secretary, Dr. F. Lloyd Bronson, Streator.——Will County Medical Society at Joliet, December 17: president, Dr. Aloysius J. Lennon; secretary-treasurer, Dr. Marion K. Bowles, both of Joliet.——Peoria City Medical Society, December 16: president: Dr. Sumner M. Miller; secretary, Dr. Elbert W. Oliver *(reelected)*.——Whiteside County Medical Association at Morrison, December 11: president, Dr. Herbert Leroy Pettitt, Morrison; secretary-treasurer, Dr. Francis J. Conroy, Sterling.

Chicago

Praise for Administrative Officer of Hospital.—A dinner was given in honor of Albert M. Day, president of the board of managers of the Presbyterian Hospital by the medical staff of the institution, December 22, to celebrate the completion of the additions and enlargements of the hospital. During the proceedings, an oil portrait of Mr. Day was presented to the hospital managers by the staff. Addresses eulogistic of Mr. Day were made by Drs. Frank Billings, J. Clarence Webster and Ludvig Hektoen, Rev. John T. Stone and Mrs. Helen McMillan.

Three Isolation Hospitals Planned.—The propaganda committee of the Chicago Medical Society proposes the erection of three new contagious disease hospitals to be located on the south, north and northwest sides of the city, respectively. It is proposed to make a charge for patients able to afford to pay for hospital service. The first step in the education of the public suggested by the committee is lectures in schoolhouses and churches, where members of the society will discuss health subjects with the people and answer questions that may be asked.

MAINE

Personal.—Drs. Harold J. Everett, Philip P. Thompson and Alfred Haskell have returned from Europe.

Sanatorium Burned.—The sanatorium of the Bangor Anti-Tuberculosis Society, 2 miles from the city, was totally destroyed by fire with its contents, December 1, with a loss of $5,000.

New Officers.—Cumberland County Medical Society, December 19: Dr. J. Madison Taylor, Philadelphia, read a paper on goiter; Dr. Bertrand F. Dunn was elected president and Dr. Adam P. Leighton, Jr., Portland, secretary.——Knox County Medical Society at Rockland, December 10: president, Dr. F. B. Adams; secretary-treasurer, Dr. H. W. Frohock, South Thomaston.

NEW YORK

Hospital Quarantined.—The Nassau Hospital at Mineola, L. I., has been under quarantine for the past week owing to an outbreak of diphtheria among the patients and nurses. The disease is said to be under control and the quarantine will probably be raised within a few days.

Prize Essays.—The committee on the award of the Merrit H. Cash prize, which is awarded every two years to a member of the Medical Society of the State of New York, announces that this prize will be awarded in 1914.——The Lucien Howe Prize amounting to $100 each year. The essay must be on a subject pertaining to ophthalmology. The essays must be sent to Dr. Albert Vander Veer, 28 Eagle Street, Albany, N. Y., not later than March 1, 1914.

Unique Method of Making Milk Examinations.—The *Monthly Bulletin* of the New York State Department of Health contains the Rochester Health Report for the year 1912 in which a unique method of recording milk examinations is described. It is the work of Dr. George W. Goler, Rochester, and is as follows:

> Disks of cotton containing the sediment are placed in the covers of the original tin boxes in which they are collected. The cover has the name of the producer, date of collection and name of retailer on it. The boxes with their contents are dried in the incubator and are then pasted on rectangular sheets of glass 8½ by 6 inches. These sheets of glass are then filed in a specially made filing cabinet, each retailer having his producers filed on one or more sheets of glass. A tally-book serves to show the number of the retailer and his list of producers. At the outside of the health office is an iron cabinet with a glass front in which a number of these glass slides are posted, and those interested are invited to inquire at the health office for their milkman's record. When an inquiry is made, not only the cotton disk with the sediment is shown, but the report of his dairy, his producers, the bacteriologic count, the temperature of his milk; in fact, his whole record is exhibited to the inquiring consumer.

New York City

Harvey Society Lecture.—The next lecture in the ninth course of Harvey Society lectures will be given at the New York Academy of Medicine, January 17, when Prof. Victor C. Vaughan, University of Michigan, will lecture on "The Etiology of the Infectious Diseases."

Insurance Company Opens Sanatorium.—The Metropolitan Life Insurance Company has opened its new sanatorium for the care of employees afflicted with tuberculosis. The institution is located at Mount McGregor, N. Y., 1,200 feet above sea level on a site embracing 420 acres.

Social Service Work for State Hospital.—Funds have been secured for the establishment of a social service department in connection with the Long Island State Hospital for the Insane, Brooklyn, N. Y. A social worker has been employed for the purpose of preventive care and "follow-up" work among the insane in the City of Brooklyn.

New Hospital Opened.—The new Herman Knapp Memorial Eye Hospital at Fifty-Seventh Street and Tenth Avenue, which houses the old New York Ophthalmic and Aural Institute which was founded by Dr. Knapp in 1869, was opened December 12. The building is seven stories in height and is the last word in hospital architecture and equipment that science and money can provide. The building was constructed by the trustees in memory of Dr. Knapp by funds collected for that purpose.

Municipal Health Exhibit.—The Department of Health opened its first permanent municipal health exhibit in this city, December 17, on the fifth floor of the Health Department building. The exhibit had its origin in the budget display of last year and consists of displays showing the work of the various bureaus of the Health Department, among them being a children's hospital ward and one of the tuberculosis sanatorium at Otisville. Among speakers on this occasion were Dr. Stephen Smith, health commissioner from 1868 to 1875; Dr. Abraham Jacobi and Prof. Charles F. Chandler, commissioner from 1879 to 1883.

Social Hygiene at Columbia.—The first report of an investigation that has been in progress for a year in regard to the sanitation, food and social hygiene of students has been presented by Dr. William H. McCastline, the health officer of Columbia University. The report shows that there have been few cases of contagious or infectious disease and that the number of students who have been willing to come for consultation in regard to moral problems is most gratifying. It is affirmed that as a class Columbia men are of excellent principle and high moral caliber. Dr. McCastline has organized a student board of health, whose duty shall be to improve the eating houses and restaurants in the vicinity of the University. Two courses in social hygiene have been arranged, one for the freshman year, which shall cover all the facts that a young man should know in relation to personal and social hygiene, and one for the senior year which shall have for its object the presentation of facts that will enable the men to appreciate their obligations as men to society and the home.

NORTH CAROLINA

New Officers.—Buncombe County Medical Society's eighteenth annual meeting at Asheville, December 15: president, Dr. Paul H. Ringer; secretary-treasurer, Dr. Gaillard S. Tennent, both of Asheville.

Patients Erect Monument to Physician.—From the voluntary offerings of former patients in the community in which he practiced in Sampson County, a handsome monument has been erected to Dr. Charles S. Kerr, Kerr, N. C., who died two years ago.

Personal.—Dr. Lucius N. Glenn, Gastonia, has been appointed a director for the City Hospital for the Insane, Morgantown.——Dr. H. L. Pitman has returned to Fayetteville, where he will be associated with Dr. Jacob F. Highsmith and will take charge of the laboratory and electrical work of the Highsmith Hospital.

PENNSYLVANIA

Antispitting Campaign.—Members of the Women's Health League of Pittsburgh were stationed in the principal streets December 19, to enforce the antispitting ordinance. Arrests were made of all offenders. This ordinance was passed several years ago, and in spite of signs on every block, has never been observed.

New Officers.—Carbon County Medical Society: president, Dr. Lewis W. Moyer, East Mauch Chunk; secretary, Dr. Calvin

J Billiet, Lehighton ——At the annual meeting of the Bucks County Medical Society, November 12 president, Dr William C LeCompte, Bristol, secretary treasurer, Dr Anthony F Myers, Blooming Glen

Personal—Dr Frederick W. Brown has been elected mayor of Franklin ——Dr Gregg A Dillinger was recently elected a member of the city council of Pittsburgh ——Dr Samuel A Woods, Sharon, who was recently operated on, is recovering ——Dr George W Kennedy, Sharon, was recently operated on for a stone in the kidney in Cleveland

Coatsville Water-Supply Held Up—The plan to establish in Coatsville a modern water supply, which was voted for by the taxpayers in August last, and to cost $185,000, has been held up by the State Health Department The reason for this delay is due to the fact that the authorities at Coatsville did not consult nor have the approval of the State Health Bureau of their plans for the new department

Philadelphia

Election of Officers—Kensington branch of the Philadelphia County Medical Society vice president of the county society, Dr Edwin B Miller, chairman, Dr William T Dempsey, clerk Dr Harry W Goos

Personals—Dr James T Rugh has been appointed Orthopedic Surgeon to the North American Sanitarium, Atlantic City, N J ——Dr William C Posey, who has been suffering with pneumonia, has sufficiently recovered to go to Lakewood, N J, for convalescence

Center of Opium Traffic Discovered—Wholly by accident the headquarters of the opium traffic in Philadelphia were uncovered at Ninth and Vine Streets There were confiscated more than $1,500 worth of raw opium and more than $100 worth of prepared opium, and two men were placed under arrest

Memorial Fund for Lectures—A fund of $10,000 has been given to the College of Physicians for the purpose of offering prizes and establishing courses of lectures on original research in medicine This fund is given as a memorial of the late Dr Nathan Lewis Hatfield The trustees of the fund are Drs Robert G LeConte, Norton Downs and Francis R Packard

Additions to Hospitals—The Lebanon Hospital Association has purchased the premises 1728, 30, 32 N Seventh Street, lot 65 by 82 feet for a consideration of $1,100 ——A contract has been awarded for alterations and additions to St Joseph's Hospital at Seventeenth and Girard Avenue ——Plans are being prepared for additions to the Garretson Hospital at Eighteenth and Hamilton Streets

To End Dispensary Graft—The Philadelphia County Medical Society and the Philadelphia County Homeopathic Society have united on a plan to wipe out free hospital and dispensary abuse Statistics from hospital and dispensary reports show that last year 530 000 patients received free treatment in Philadelphia At a meeting of the two medical societies next week a more definite plan will be decided on Already Jefferson and Hahnemann Hospitals have appointed committees to frame prevention methods

Hospitals Reform Throughout Philadelphia—Forty physicians, lawyers and business men attended a meeting in Director Joseph S Neff's office in City Hall, December 10, for the purpose of uniting the fifty five hospitals and dispensaries of the city in the adoption of an efficiency program It was pointed out that the cost of maintenance could be reduced about $200 000 by the adoption of such a program Those present subscribed liberally toward the $7,000 fund to be raised for the purpose of making an efficiency study of the whole hospital situation This movement of the County Medical Society Commission aims to "outline and chart the proper organization and management of a Central Record Bureau, with subdivisions covering general efficiency departments accounting bureaus, office methodizing departments, purchase testing and employment bureaus" Perhaps it would be well to make this bureau in addition, a 'clearing house" as to worthiness of all claimants for free treatment at all hospitals and dispensaries of this medical center Free treatment of those able to pay adds enormously toward the present financial waste in hospitals in the city

GENERAL

Fraternity Election—Dr Lewellys F Barker, Baltimore, and Dean John L Heffron, Syracuse, N Y, have been elected directors of the Alpha Omega Alpha Medical Scholarship Society The directors have elected Dr. Russell Burton Opitz, New York City, president, and Dr G Carl Huber, Ann Arbor, Mich, vice president Dr William W Root, Slaterville Springs, N Y, continues as permanent secretary treasurer

Western Surgical Association—The twenty third annual session of the Western Surgical Association was held in St Louis, December 19 and 20 under the presidency of Dr Jabez N Jackson, Kansas City, and the following officers were elected president, Dr Byron B Davis, Omaha, vice presidents, Drs Leonard Freeman, Denver, and L W Littig, Davenport Iowa, secretary treasurer, Dr Arthur T Mann and executive committee, Drs Jabez N Jackson, Amos W Abbott, Minneapolis, John P Lord, Omaha, and Malcolm L Harris, Chicago

Seaboard Physicians Hold Meeting—The eighteenth annual meeting of the Seaboard Medical Society of Virginia and North Carolina was held in Norfolk, Va, December 10 and 11 Goldsboro, N C, was selected as the next place of meeting and the following officers were elected president, Dr J Ramey Parker, Goldsboro, N C, vice presidents, Drs George K Vanderslice, Phoebus, Va, Cicero F Griffin, Winton, N C Robert F Whitehead, Kempsville, Va, and W J Harrell, Aulander, N C, secretary, Dr Clarence Porter Jones, Newport News, Va, treasurer, Dr George A Caton, Newbern, N C, and orator, Dr James H P Culpepper, Norfolk, Va

Southern Surgeons Meeting—The twenty sixth annual meeting of the Southern Surgical and Gynecological Association was held in Atlanta, December 16 to 18 under the presidency of Dr John Young Brown, St Louis Asheville, N C, was selected as the next place of meeting and the following officers were elected president, Dr John Wesley Long, Greensboro, N C, vice presidents, Drs Arthur Carroll Scott, Temple, Tex and James F Mitchell, Washington, D C, secretary, William D Haggard, Nashville, Tenn (reelected), treasurer, Dr Le Grand Guerry, Columbia, S C (reelected), and council Dr Stuart McGuire, Richmond, Va, Bacon Saunders, Fort Worth, Tex, Rudolph Matas, New Orleans, John M T Finney, Baltimore, and John Young Brown, St Louis

Warning—At this time of the year the ubiquitous subscription swindler is abroad working a nefarious game in making collections from unsuspecting victims, as payment for renewed subscriptions Information has been received that certain individuals are working the medical profession in Ohio Indiana and Tennessee By next week these swindlers will probably have migrated to some other territory Our readers are therefore cautioned to pay money to no one unless the proper credentials are produced Letters of authority bearing the signature of George H Simmons and the official seal of the American Medical Association are supplied to the A M A's representatives The holders of such letters are the only ones authorized to make collections Information by telegraph regarding any of these swindlers will be welcome

Bequests and Donations—The following bequests and donations have recently been announced

Methodist Hospital, Philadelphia $5,000 by the will of George W Fees

United Hebrew Charities and Mount Sinai Hospital New York City each $10,000 Home for Aged and Infirm Hebrews and Montefiore Home, each $2 500, St Johns Guild and Presbyterian Hospital each $1 000 by the will of Samuel H Spingarn

Little Sisters of the Poor of St Francis Society of St Vincent de Paul New York City, Sanitarium Gabriels Gabriels N Y, The Servants for the Relief of Incurable Cancer and Seton Hospital Spuyten Duyvil each $5 000 by the will of Francis Higgins

Nyack (N Y) Hospital, $5 000 by the will of Nicholls B Cushing

French Hospital New York City $1,000 for the support of a bed, by the will of Mrs J H Bacigalupo

Montefiore Home $4 500, Mount Sinai Hospital, New York City $2 500 by the will of William Scholle

United Hebrew Charities Hebrew Orphan Asylum Mount Sinai Hospital Montefiore Home, and Visiting Guild for Crippled Children New York City each $5 000, St Johns Guild and Association for Improving the Condition of the Poor, each $4 000 by the will of the late Ferdinand Hermann

Presbyterian Hospital New York City in gratitude for the care of his late wife, a residuary bequest of $75,697 by the will of Edward O Kindberg

Childrens Free Hospital Louisville and Kentucky Society for the Study and Prevention of Tuberculosis each about $5 000 and Babies Milk Fund of Louisville, $2 000 under the will of Samuel K Bland

CANAL ZONE

Personals—Dr Charles E Phillips, Ancon, formerly chief of the surgical clinic in Colon Hospital, has resigned to take up private practice in Los Angeles ——Dr John P Bates, district physician at Ancon, has resigned and will practice in Greenwood, Miss ——Dr Oscar R Troje of the Ancon Hospital staff has resigned and accepted a position with the Tennessee Coal, Iron and Rail Company in Alabama ——Dr Edward P Beverly, Christobal, district physician at Corozal, has resigned to accept a position in the pension department in Washington, D C ——Dr J J McCloom of the Eye, Ear, Nose and Throat Clinic at Colon Hospital has resigned and will practice in the United States

CANADA

Provincial Medical Meeting—The annual meeting of the Ontario Medical Association will be held in Toronto May 26 to 28 The plan of making the meeting largely clinical will be adopted which was found so successful in 1912 The president is Dr Charles F McGillivray, Whitby, and the general secretary, Dr Frederick Arnold Clarkson, Toronto

Physicians Protest Against Increased Telephone Rates—Physicians in Montreal are up in arms against the action of the Bell Telephone Company of Canada raising their rates which have always prevailed, from $40 a year to $55 a year They intend carrying their grievance before the Canadian Railway Commission at its Montreal sitting, January 5

Typhoid at Windsor, Ontario—Notwithstanding the chlorin treatment of the water supply of Windsor, the typhoid incidence shows no abatement and the city is threatened with an epidemic For the past three or four years the annual number of cases in the city has been about fifty and in the county fully one half of that number This indicates that the source of the water supply is getting worse year by year and that the greatest care should be exercised in chlorination as otherwise a serious outbreak may be precipitated at any moment

Health Officers Busy—Dr J W S McCullough chief health officer of Ontario, has received reports from the several officers of health allotted to different districts in the province The officer of No 7 district which is in northern Ontario, reports that he has looked after the interests of twenty eight municipalities and has traveled 35,525 miles in doing so Several epidemics had to be met in the year and many council meetings had to be attended to advise on sewage, waterworks schemes etc In addition many lectures were delivered on public health matters

Deportations—During the official year 1912 1913 Canada deported for all causes 1,281 persons For disease the number was 408, crime, 334, public charge 392, other causes 147 For tuberculosis the total number was 62, for insanity, 219 In the insane class the largest numbers were from England—69, United States, 43 and Scotland, 26 For tuberculosis the largest number, 29, was from England The total immigration in the year was 402 432 In addition to the deportations, 756 were rejected at ports of entry, and of this number, 333 were on account of disease

Headache Powders in Canada—The Department of Inland Revenue, Ottawa has recently issued a bulletin on 'headache powders" It will serve to do some good as it practically calls the attention of the public to the harm which is done by the indiscriminate use of these powders After pointing out that headache is merely a symptom of disease, the bulletin further directs attention to the fact that the efficiency of the powders is due to powerful heart depressants, capable under certain conditions to produce fatal results, and in most cases considerable harm Nearly all of 171 samples analyzed contained acetanilid or phenacetin and are so marked under the regulations of the Patent Medicine Act The amount of acetanilid present was over 3 grains Most of them also contained caffein

Inspection Tour—Dr Helen MacMurchy, the newly appointed assistant to Dr Robert W Bruce Smith, Inspector of Hospitals and Public Charities in Ontario, has returned to Toronto from a tour of inspection of the private hospitals in the province and states that this new hospital legislation has proved beneficial to the entire province One result of the legislation is a stimulation for more hospitals especially in the newer districts of the province, and a decided improvement has already taken place in the maternity branch of the work Another feature of marked benefit is the establishment of medical cabinets in districts from 50 to 100 miles from the nearest physician These embody a little more than first aid requisites but enable medical care to be given for several days and if necessary by any one who will follow the directions

To Withdraw or Not to Withdraw—Is the Ontario Medical Association to withdraw from affiliation with the national medical body, the Canadian Medical Association? At the annual meeting of the latter in London last June a notice of motion was presented which called for such withdrawal An editorial in the December issue of the *Canadian Practitioner and Review* recalls the foundation of the Ontario Medical Association in 1880, the organization at that time was opposed by the Ottawa Medical Society on the grounds that it might be injurious to the interests of the Canadian Medical Association The particulars of the grievance are that since 1910 the Ontario Medical Association has only been able to hold two annual meetings, as according to the terms of affiliation when the national medical body meets in any one province the annual meeting of the provincial body shall not be held in that year It is understood also that there has been considerable friction between the executives of the two associations over the financial arrangements In Ontario there appears to be considerable dissatisfaction with the present arrangements

Better Housing—The cause of better housing is proceeding apace in Toronto The Toronto Housing Company with 166 shareholders who have together advanced $100 000, have joined in the solution of the problem of better housing of the working people Some time ago the medical officer of health reported there were 390 houses unfit for habitation, 2,137 houses with two or more families, 198 one room dwellings, 411 two room dwellings and 646 three room dwellings The Ontario government has unanimously enacted legislation which provides a way by which the cities and towns of the province may to a large extent solve the problem of providing houses at moderate prices for their people On the passage of this legislation the Toronto city council immediately appropriated $850 000 for the purposes of the Toronto Housing Company On one block of land $55 000 has been spent in providing homes for thirty eight families Recently the corner stone was laid for the company's cottage flats in the northeastern portion of the city, while land has been acquired in the northwestern part of the city for future operations Numerous cities and towns in Ontario have begun to organize housing companies

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Dec 13, 1913

Sir William Osler on the Medical Clinic

At a meeting of the Abernethian Society at St Bartholomew's Hospital Sir William Osler delivered an address on 'The Medical Clinic—a Retrospect and a Forecast" He related his personal experiences as a clinician and showed on a screen photographs illustrating the instruction of classes of medical students at the Johns Hopkins Hospital by the examination and treatment of patients in the presence of the pupils They had to organize the hospital on Continental lines and different men were placed in charge of different departments He introduced the system of clinical clerks and dressers which is regarded here as one of the principal merits of the English system They adopted the plan of the physician in chief who had full control and appointed his senior assistant and his second and third assistants and a man in charge of the clinical laboratory That was a direct transfer of the German system When the medical school opened they took those assistants over as part and parcel of the school, and they organized the outpatient department with men who were also made teachers in the medical department It was not easy to present the work of the clinic to the students unless there was organization, and so clinical committees were appointed—three or four men who made reports on diseases Connected with the clinic there must be laboratories which must be equipped sufficiently for the students to do research work Conditions had changed and were changing There was a spirit of unrest, and the medical profession was disturbing itself The question which was worrying people in the medical schools was whether it was possible to graft on the good old English method something similar to that which had been found advantageous in the United States The teaching of medicine was too complicated now, and it was necessary to bring our university system into the hospital - We had to make medicine and surgery departments of the university, each department with a head who should manage his own department, who would have his own clinic and own assistants The speaker's attitude was not altogether favorable to the whole time clinical professor Osler would rather that the professor spent the greater part of his time on that work, and devoted a limited portion of it to his outside work But that was a problem that the next generation had to solve

New Disease in the Sudan

Dr. H. B. Fantham, in the course of a lecture delivered on Friday before the Liverpool School of Tropical Medicine, dealt with the diseases of the Anglo-Egyptian Sudan. The lecturer described his pioneer researches, in company with Dr. Chalmers and Captain O'Farrell, of the Wellcome Laboratory, Khartoum, on a form of bronchitis due to a new spirochete occurring in the respiratory passages of man. This spirochete had not before been recorded from Africa, and very little is known about it. Both natives and Europeans suffer from bronchial spirochetosis, especially after the rains. Relapses are common, but the disease is amenable to treatment. It is widespread, endemic centers having already been found at Khartoum, Omdurman, Kodok and other places.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 12, 1913.

Death of Dr. Empis

Dr. Empis, former agrégé of the Faculté de médecine de Paris, and former president of the Académie de médecine, has just died, aged 89 years He was one of the last representatives of that brilliant French clinical school which, toward the middle of the nineteenth century, occupied so important a position in medicine. After publishing many clinical studies on diphtheria, irregular varioles, etc., Empis published in 1865 a work in which he gave a remarkable description of the clinical picture of acute miliary tuberculosis. Two years later he published a work on the statistics of the obstetric services of the hôpital de la Pitié and the measures employed there against puerperal fever. These studies for the first time stated the problem of the contagiousness of puerperal fever and declared the necessity for isolating puerperae so affected and the necessity of using the strictest prophylactic measures against the disease Empis was elected a member of the Académie de médecine, over which he presided in 1895.

Insufficient Application of the Law with Regard to Compulsory Vaccination

Dr. Camus of the Institut supérieur de vaccine, attached to the Académie de médecine, at the last session of the academy showed some documents which showed that the law was by no means strictly enforced. The figures with regard to deaths from small-pox showed that there is a continual decrease:

1907	2,679 deaths
1908	171 deaths
1909	87 deaths
1910	78 deaths
1911	70 deaths
1912	20 deaths

These remarkable diminutions could not be altogether attributed to scrupulous enforcement of the law. We are at present getting the benefit of the protection afforded by numerous vaccinations formerly made and especially the revaccinations, regularly practiced in the army and in certain schools. Camus has found that in 1911, thirty eight departments reported a diminution of the number of vaccinations compared with the previous year, and that in 1912 sixty departments showed such a decrease. In the greater number of the departments the law is not applied as it should be, and it is less and less strictly enforced.

To prevent future epidemics of small-pox, which are to be greatly feared in a population continually less immunized, the following measures should be adopted: (1) To enlist the interest of teachers, heads of schools and managers of commercial enterprises; (2) to facilitate the vaccination of women and young girls by setting apart special rooms or hours for their vaccination, since it is among women and young girls especially that vaccination is most frequently refrained from, doubtless because of their fear of promiscuous exposure since the operation requires taking off some of the clothing; (3) to make the prefects instead of the mayors responsible for the enforcement of the law since the former are more independent and therefore in a position to enforce the law with less fear of consequences.

Divorce and Alcoholism

Dr. Ladame of Geneva recently read before the Société française d'eugénique an interesting paper on this subject. Thirty years ago he had mentioned the parallelism between suicide and divorce, which was noticed also by Bertillon and Durkheim. Ladame believes that there is a cause common to these two phenomena, that is, alcoholic intoxication. In the decrees of divorce given at Geneva between the years 1901 and 1910, it seems that, eliminating uncertain cases, out of 1,812 divorces 672, or 37.3 per cent., were caused by alcoholism or drunkenness The comparative tables of these cases of divorce show that most frequently it was the husbands who drank and that naturally it was the wives who sought divorce. The parallel between the increase of alcoholism and that of divorce in the first part of the period mentioned is apparent; on the other hand, since a tax has been put on alcohol in Switzerland, the number of divorces have diminished.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 5, 1913.

Personal

Professor Neumann of Giessen has accepted the call to Bonn as successor to Professor Kruse.

Professor Loeffler has been appointed a member of the Prussian state scientific deputation for medical affairs.

Professor Forschbach has been appointed director of the medical university policlinic at Breslau as the successor of Professor Ziegler, who has gone to Freiburg as director of the medical policlinic.

Professor Flechsig, director of the neurologic clinic of Leipsic, has been given leave of absence on account of illness. He will be represented in the conduct of the clinic by Privat-Docent Quensel.

Behring's New Method for Prevention and Treatment of Diphtheria

Further trials of the active immunization against diphtheria with Behring's new preventive remedy, made in the Magdeburg municipal hospital at Sudenburg, are said to have given good results. About 500 children were vaccinated by two assistant physicians of the hospital in six small cities and villages of the district in which diphtheria epidemics were prevalent. As a result, none of these children sickened with diphtheria although the endemic in these localities still continues. Some children were vaccinated only once for special reasons and of these several became ill but only within the first ten days, and among them the diphtheria ran a lighter course than in the other cases. No bad results have been observed from the vaccination in these children.

An International Medical Society in Berlin

Under the title of Internationaler Aerzteverein, an association apparently founded by Russian business men is attempting to secure foreign physicians in medical institutions for the purpose of their further improvement. To this end it is seeking to gain over the directors of foreign German hospitals to assist in its undertaking. The *Deutsche med. Wochenschrift* in its latest number warns against this organization which is evidently concerned in obtaining patients. The board of directors of the association consists of two Chilians, one Greek, one Spaniard and two Russians, none of whom apparently is a physician, and a former military surgeon in Kiev. The treasurer (!) is apparently the only German.

Medical Report on King Otto of Bavaria

Your readers are aware from the newspapers that the Prince Regent Ludwig has assumed legal power in place of the insane king, Otto, who has been deposed. The commission appointed to report on the mental condition of King Otto, consisting of Professor Kraepelin of Munich, Professor Specht of Wurzburg and some other physicians, concluded that King Otto of Bavaria was incurably insane and should be deprived of the exercise of his royal power to the end of his life.

Memorial for Robert Koch

December 11, the day on which he would have completed his seventieth year, there was instituted a quiet memorial in memory of Robert Koch by Professor Loeffler, the present director of the institute, in the Robert Koch mausoleum, which, as is well known, is located in the Institute for Infectious Diseases in Berlin The entire board of directors of the Robert Koch foundation for the campaign against tuberculosis took part in the celebration. Memorial wreaths were placed in the mausoleum by this as well as other corporations, and in honor of the memorial day the *Deutsche medizinische Wochenschrift*, the regular organ of publication of the great bacteriologist, issued a special number to which interesting contributions were furnished by the most noted pupils of Robert Koch, Loeffler, Ehrlich, Brieger, H. Kossel, Uhlenhuth, Pfeiffer, Kolle and others.

Deaths

Brigadier General George Henry Torney, Surgeon General, U. S. Army, died at his home in Washington, December 27, from bronchial pneumonia, aged 63. He was born in Baltimore, June 1, 1850, the son of John P. and Mary M. Peacock Torney. He received his preliminary education at Carroll University, New Windsor, Md., and took his medical course at the University of Virginia, Charlotteville, from which he was graduated June 30, 1870. After an internship of one year at the Bay View Hospital, Baltimore, he entered the U. S. Navy as an assistant surgeon, Nov. 1, 1871; was made passed assistant surgeon, Nov. 1, 1874, and resigned from the Navy, June 30, 1875. On the following day he was appointed first lieutenant and assistant surgeon, U. S. Army; was made captain and assistant surgeon five years later; was promoted to major and surgeon June 6, 1894; to lieutenant colonel Aug. 6, 1903, and to colonel, Medical Corps, April 23, 1908. After serving at several posts, he was detailed to duty at the U. S. Military Academy, West Point, in July, 1894, and continued in this work until May, 1898, when he was ordered to equip and take charge of the U. S. A. Hospital Ship *Relief* and in this capacity serving in Cuba and Porto Rico and the United States until October. At the termination of the Spanish-American War, Dr Torney was ordered to duty as instructor in hygiene at the Army School, Fort Leavenworth, Kan. In August, 1889, he was placed in command of the Army and Navy General Hospital, Hot Springs, Ark., and continued this duty until November, 1902, when he was sent to the Philippine Islands where he was placed in command of the First Reserve Hospital, Manila, from December, 1902, until July, 1903. On his return from the Philippine Islands in 1903 he was appointed chief surgeon of the Department of California and after four months was placed in command of the General Hospital, Presidio of San Francisco, and served in this capacity from March, 1904, until December, 1908. During this time the San Francisco earthquake and fire occurred and he was placed in charge of the sanitary work of the stricken city, and made there for himself a brilliant record as an administrative officer and a sanitarian. From November, 1907, to December, 1908, he was again chief surgeon of the Department of California and on Jan. 14, 1909, he was appointed surgeon general of the Army on the retirement of Brigadier General Robert M. O'Reilly. General Torney was a Fellow of the American Medical Association, and president of the Association of Military Surgeons of the United States at its Milwaukee meeting in 1911. He was also chairman of the War Relief Committee of the American National Red Cross. In every position in which General Torney was placed, he showed marked efficiency. He was much esteemed by the members of the Medical Corps of the Army; which loses in his death an administrative officer of great merit and a sanitarian of high rank.

GEORGE H. TORNEY, 1850-1913

Peter McKittrick, M.D. Rush Medical College, 1889; a Fellow of the American Medical Association; of Eau Claire, Wis.; died in the Sacred Heart Hospital in that city, December 17, from disease of the throat, aged 47.

Alexander Erskine, M.D. New York University, New York City, 1858; a member of the Tennessee State Medical Association; surgeon of the Fifteenth and Second Tennessee Infantry, C. S. A., during the Civil War; emeritus professor of obstetrics and pediatrics in Memphis Hospital Medical College; dean of that institution from 1868 to 1873; for several terms president of the Memphis and Shelby County Medical Society; died at his home in Memphis, December 13, from senile debility, aged 81.

Edmund L. B. Godfrey, M.D. Jefferson Medical College, 1875; a Fellow of the American Medical Association; for many years a member of the staff of the Cooper Hospital, Camden; at one time president of the Medical Society of New Jersey and secretary of the State Board of Medical Examiners; a surgeon in the National Guard for twenty-nine years, retiring as colonel and assistant surgeon-general; died at his home in South Pasadena, Cal., December 18, from heart disease, aged 63.

Mary M. Arnett, M.D. Hahnemann Medical College, Chicago, 1896; of Boulder. Colo.; who started on a trip around the world a year ago by way of the west, died suddenly in Edinburgh, Scotland, October 12. from heart disease, aged 59.

Alvaro E. Mossman, M.D. Bellevue Hospital Medical College, 1881; a member of the staff of the Haywood Memorial Hospital, Gardner, Mass.; a member of the Massachusetts Medical Society; was found dead in bed, December 19, aged 56.

Frederick Normal Swift, M.D. Long Island College Hospital, 1896; Baltimore Medical College, 1899; a member of the Medical Society of the State of New York; died at his home in Beekmantown, December 5, aged 52.

James Dorr Clyde, M D. College of Physicians and Surgeons, New York City, 1867; a veteran of the Civil War; formerly a druggist; died at his home in Cherry Valley, N. Y., December 4, aged 70.

Faulkner A. Short, M.D. University of Toronto, Ont., 1902; a member of the Oregon State Medical Association; died at his home in Portland, December 11, from heart disease, aged 39.

Reuben H. Chase, M.D. Detroit Homeopathic Medical College, 1872; formerly of Denver, Colo.; died at his home in Long Beach, Cal., December 10, aged 76.

Henry Banga, M.D. University of Basel, Switzerland, 1875; a Fellow of the American Medical Association; well known gynecologist of Chicago; professor of gynecology in the Chicago Policlinic; dean of the attending staff of Michael Reese Hospital; died while attending a patient in Chicago, December 24, from cerebral hemorrhage, aged 66.

Hugh Cary, M.D. University of Michigan, Ann Arbor, 1894; a member of the Michigan State Medical Society; formerly president of the village of Delray, a suburb of Detroit; a member of the Board of Education and school inspector of Detroit; at one time health officer; died at his home, December 14, from arteriosclerosis, aged 61.

Thomas M. Crosby (license, Mississippi, 1888); a member of the Mississippi State Medical Association and vice-president of the Newton-Neshoba-Winston County Medical Association; of Neshoba; died in Newton, Miss., December 16, from carcinoma of the liver, aged 52.

Richard G P. Dieffenbach, M D College of Physicians and Surgeons, New York City, 1884; a Fellow of the American Medical Association, treasurer of, and visiting surgeon to the Newark (N J) German Hospital, physician to the Home for the Friendless and Hebrew Orphan Asylum, vice president of the West Side Trust Company, Newark, and a member of the city council in 1884 and 1885; died at his home in Newark, December 17, from cerebral hemorrhage, aged 61

Frank Edward Agnew, M D. College of Physicians and Surgeons, New York City, 1885, a member of the Medical Society of New Jersey, a member of the staff of the Paterson General Hospital, attending physician of the Isolation Hospital, formerly city physician of Paterson, died at his home, December 17, from pneumonia, aged 49 The Paterson Board of Health and Passaic County Medical Society, at a meeting, December 17, adopted resolutions of regret and sympathy

Benjamin Frank Wagenseller, M D. Pennsylvania Medical College, Gettysburg, 1861, assistant surgeon of the 139th and surgeon of the 158th Pennsylvania Volunteer Infantry during the Civil War, a member of the Medical Society of the State of Pennsylvania and once president of the Northumberland and Snyder County Medical societies, local surgeon of the Philadelphia and Erie and Northern Central railroads, died at his home in Selin's Grove, December 20, aged 5

Adaline Marshall Watson, M D Woman's Medical College of Pennsylvania, Philadelphia, 1898, a Fellow of the American Medical Association, formerly president of the Woman's Medical Society of Pittsburgh, physician to the Margaret Morrison School of the Carnegie Institute of Technology Pittsburgh, a member of the staff of Columbia Hospital, Wilkinsburg, died in a hospital in Pittsburgh, December 17, aged 47

William Edgar Rice, M D George Washington University, Washington, D C, 1878, formerly a Fellow of the American Medical Association, Association of Military Surgeons of the United States and American Academy of Medicine, acting assistant surgeon U S P H Service, city physician of Bath, Me, from 1880 to 1885, died at his home, December 17, from heart disease, aged 61

John Domingo Fernandez, M D. Medical College of Virginia, Richmond, 1870, a Fellow of the American Medical Association, one of the organizers and for many years secretary and treasurer of the Florida Medical Association, secretary and treasurer of the Regular Board of Medical Examiners, died at his home in Jacksonville, December 15, from cerebral hemorrhage, aged 65

William C Bartram, M D. College of Physicians and Surgeons, New York City, 1904, a Fellow of the American Medical Association and a member of the staff of St Luke's Hospital, Newburgh, N Y died at his home in that city, December 17, from septicemia, following an operation wound, aged 34

John Hunt Crosby, M D University of Michigan, Ann Arbor, 1904, a Fellow of the American Medical Association, a well known practitioner of Plainwell, Mich, and a member of the local school board, died in the Bronson Hospital, Kalamazoo, December 17, two days after an operation for appendicitis, aged 36

Gary Hosmer Wood, M D Long Island College Hospital, Brooklyn, N Y, 1877, a member of the Medical Society of the State of New York, for five years a member of the general assembly and chairman of the committee on public health, died at his home in Antwerp, December 18, aged 59

Thomas Chalmers Christy, M D Bellevue Hospital Medical College, 1874, a member of the Medical Society of the State of Pennsylvania, a veteran of the Civil War, a practitioner of Pittsburgh until 1900 and thereafter a resident of Pasadena, Cal, died at his home in Pasadena, December 18, aged 67

Henry Lorenz Obetz, M D Homeopathic Hospital College, Cleveland, 1874, a Fellow of the American Medical Association, professor of clinical surgery in Detroit Homeopathic College, a member of the staff of Grace and St Mary's hospitals, died at his home in Detroit, December 20, aged 62

Francis LeBau Parker, M D. Medical College of the State of South Carolina, Charleston, 1858, formerly professor of anatomy and dean of the faculty of his alma mater, a surgeon in the Confederate service throughout the Civil War, died at his home in Charleston, December 15, aged 77

Robert A. Smith, M D. Physio Medical Institute, Cincinnati, 1870 a member of the Indiana State Medical Association, of New Castle, Ind, a veteran of the Civil War, died at St Vincent's Hospital, Indianapolis, December 15, two days after an operation on the bladder, aged 70

Richard Wisdon Allen, M D. Bellevue Hospital Medical College, 1872, a member of the State Medical Association of Texas, emeritus professor of diseases of the chest in Southwestern University, Dallas, for many years a railway surgeon, died at the home of his daughter in Independence, Mo, December 21, aged 68

Harry W. Taggart, M D Marion Sims Medical College, St Louis, 1896, a member of the Medical Society of the State of California, once superintendent of the San Joaquin County Hospital, of San Mateo, died in St Luke's Hospital, San Francisco, December 14, aged 46

Eugene Woodworth McCord, M D. Jefferson Medical College, 1890, for several years a member of the staff of the St Paul City Hospital, a member of the Minnesota State Medical Association, died at his home in St Paul, December 21, from cerebral hemorrhage, aged 59

Byrne E Robinson, M D. McGill University, Montreal, 1892; a Fellow of the American Medical Association, died at his home in Arnold, Neb, December 19, from nephritis, aged 48

William Colby Cooper, M D Eclectic Medical Institute, Cincinnati, 1867, for many years editor of the *Medical Gleaner;* died at his home in Cleves, Ohio, December 7, aged 78

Henry T. Duffield, M D. Washington University, St Louis, 1882, of Pittsfield, Ill, a Fellow of the American Medical Association, died in St Louis, December 15, aged 60

James Walter Allen, M D. Fort Worth, Texas University, 1898, of Newark, Tex, died in Fort Worth, December 8, after a surgical operation on the kidney, aged 38

Herbert M Clapp, M D University of Vermont Burlington, 1890, of Stratford, Conn, died in Florida, December 12, *aged 50*

Marriages

Allard Memminger, M D, to Miss Margaret Aloysius Coleman, both of Charleston, S C, at Newport, R I, December 9

William Forrest Youmans, M D, Squaw Shoals, Ala, to Miss Mary Lenora Williams, of Tuscaloosa, Ala, December 23

Ulysses Schuyler Colfax Busch, M D, Jennings, Mich, to Miss Edith Bloomquist of Cadillac, Mich, December 17

Colin G Robertson, M D, Sandusky, Mich, to Miss Florence S Detwiler of Brown City, Mich, December 17

Lewis Mines Allen, M D, Winchester, Va, to Miss Dorothy Gilpin of Baltimore, at Winchester, December 10

Henry G Penner, M D, Plymouth, Neb, to Miss Anna Zimmerman of Beatrice, Neb, December 4

Frank B Sanford, M D, Morley, N Y, to Miss Lillian Lawrence of Lisbon, N Y, December 9

Lew Paul Murphy, M D, Pasco, Wash, to Miss Harriet Friend of Sheridan, Wyo, recently

Alexis Carrel, M D, New York City, to Mme. de la Marie of Paris, France, December 26

John William Jones, M D, to Miss Curie Sieber, both of Berkeley, Cal, December 11

John Edward Clark M D, to Miss Evelyn Brogley, both of Streator, Ill, December 10

Clifford Rush Eskey, M D, to Miss Mae Bogert of Chicago, January 1

Physiologic Test of Drugs—Van der Wielen incidentally give an interesting account of the practical steps taken in Holland to employ digitalis of a definite strength Sufficient of the plant is grown at Amsterdam for the use of pharmacists in Holland, to whom it is sent *out labeled with the* result of both physiologic and chemical tests The medical men are supplied with the particulars of each year's crop, so that they can order whichever supply they may judge to be best suited for the case The discussion went on for some time, but eventually the section agreed unanimously to the following resolution The Second Section of the Eleventh International Congress of Pharmacy, having heard the report of MM Ginzberg and Meulenhoff, expresses the opinion that the *principle of determining the* therapeutic value of certain drugs by physiologic methods should be adopted whenever the chemical test does not give sufficient indications —The *Chemist and Druggist.*

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

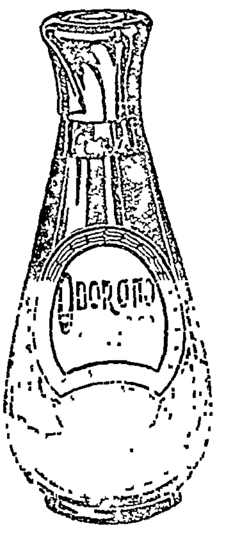
ODOR-O-NO

A Dangerous "Perspiration Preventive"

A number of inquiries have come to The Journal regarding the composition of a widely advertised toilet preparation called "Odor-o-no." It is put on the market by the Odorono Company, Cincinnati, Ohio, which has for its president A. D. Murphey, for its secretary and treasurer, E. G. Murphey, and for its advertising and sales manager, F. J. Rottmueller.

"Odor-o-no" is sold as the "anti-dress-shield toilet water." Some of the claims made for this product are:

"Keeps the armpits free, dry and natural."
"Eliminates excessive perspiration."
"A perfect antiseptic and a superior deodorant."
"Guaranteed by the manufacturer to be absolutely harmless."
"It restores the skin secretions to normal."



Odor-o-no has been extensively advertised and evidently has a large sale. More than a year ago the Indiana State Board of Health warned the public against the use of this preparation. Mr. William D. McAbee, drug chemist of the Department of Food and Drugs, declared that "Odor-o-no" was a solution of aluminum chlorid which, when applied to the skin, would be decomposed and act as a violent irritant. Several instances were reported to have been brought to the attention of the state board in which "Odor-o-no" had caused ulcers.

In the latter part of September of this year an inquiry was received about "Odor-o-no" and the report of the Indiana state chemists was sent to our correspondent. This information apparently did not satisfy the correspondent, who complained that it was a year old and that he understood "the manufacturer of 'Odor-o-no' had made some changes in his formula." In view of this and the numerous other inquiries received, it was thought worth while to analyze "Odor-o-no" in the Association's laboratory. The chemist's report follows:

CHEMIST'S REPORT

"Two original, sealed bottles of 'Odor-o-no,' manufactured by the Odorono Company, Cincinnati, Ohio, were purchased by the Chemical Laboratory of the American Medical Association, from a local supply house, and subjected to a chemical examination. The bottles contained a rose-scented red liquid, which was acid to litmus paper. The specific gravity of the liquid was 1.16. The following constituents were demonstrated to be present: aluminum, sodium, chlorid (traces of sulphate) and a red dye.

"The quantitative relations were found to be as follows:

Aluminum (Al)	3.38 per cent.
Chlorid (Cl)	14.12 per cent.
Sodium (Na)	0.17 per cent.
Water and perfume (by difference)	82.33 per cent.
	100.00 per cent.

"Inasmuch as the solution was acid, the difference between the chlorid found and that calculated from the percentage of aluminum and sodium present, is attributed to free hydrochloric acid. Calculation shows 100 c.c. of the solution to be composed essentially as follows:

Aluminum chlorid ($AlCl_3.6H_2O$)	38.8 gm.
Hydrogen chlorid (HCl)	0.86 gm.
Sodium chlorid (NaCl)	0.48 gm.
Water and aromatics to make	100 c.c.

"A third sealed bottle was purchased Nov. 15, 1913, directly from the manufacturers. Aluminum chlorid was found to be present as the essential constituent in this specimen also, and a trace of sulphate was found. For practical purposes 'Odor-o-no' may be looked on as a 33 per cent. solution of aluminum chlorid (hydrous)."

SUMMARY

Evidently the rumor that the manufacturers of "Odor-o-no" had changed their formula is without foundation. The stuff is essentially what it was more than a year ago, a solution of aluminum chlorid. When "Odor-o-no" is placed on the skin, the perspiration decomposes it into aluminum hydroxid and hydrochloric (muriatic) acid. The acid of course will attack the skin, while the aluminum hydroxid (or oxid) is apt to clog the pores. The preparation is both fraudulent and dangerous.

THE KANSAS VIEWPOINT

"We hope the physicians of Kansas will not lose sight of the fact that no drug is advertised in the pages of their state journal that has not been approved by the Council on Pharmacy and Chemistry of the American Medical Association. No doubt there are many remedies used by the profession of the state which have not thus been approved, but it should not be so. The Council has no exactions that cannot be met by any honest firm. The Council is the only body which stands as a protector of the medical profession against misrepresentation and fraud on the part of unscrupulous manufacturing chemists. It is, as it were, like a clearing house, which sets the seal of approval on preparations that are offered to the medical profession.

"If a doctor goes to a town where he is not known and asks for credit, he is promptly met with a request for recommendations. His own word is not accepted as evidence of his responsibility. If he wishes to borrow money from a bank, the bank officials may be morally certain that the obligation will be canceled according to promise, but before the money is handed over your name must be appended to a note and perhaps, too, that of a friend to indorse it. No one takes exception to this fair and business-like way of conducting business.

"Likewise, we should demand that preparations which we are asked to use shall have the endorsement of the Council, and there is no good and sufficient reason why the manufacturers should offer the slightest objection to the requirement, in fact the endorsement of the Council should be sought rather than shunned."—H. B. C. in the *Journal of the Kansas State Medical Society*.

AN EXAMPLE OF U. S. PATENT OFFICE WISDOM

As an illustration of the kinds of patents that are issued by the U. S. Patent Office, we give in full a patent granted Dec. 9, 1913. The number is 1,081,069, Serial No. 665,142.

To whom it may concern:

Be it known that I, Alois Vaquerat, *doctor of medicine*, a citizen of Switzerland, residing at Lausanne, Canton of Vaud, in the Confederation of Switzerland, have invented certain new and useful Improvements in Medicinal Compositions, of which the following is a specification.

The present invention relates to a composition which is intended to be used internally and which confers to the organisms immunity against the following microbial infectious illnesses: *diphtheria, pneumonia, typhus, scarlet fever, influenza, septic infections, cerebral spinal meningitis, syphilis, pest, cholera and tuberculosis, it is also effective in another kind of disease, viz.: goiter.* [Italics not in original.—Ed.]

This remedial composition or substance does not contain any substances strange to the organism. Therefore the innocuity of the remedy is perfect. The principal of these substances is creatinin, creatinin used alone in the quantity of from 0.05 gram to 0.10 gram is a sure remedy against diphtheria. For all other diseases already mentioned, pneumonia, typhus, scarlet fever, influenza, septic infections, cerebral spinal meningitis, syphilis, pest, cholera, tuberculosis and goiter, it is preferable to mix with the creatinin two other substances, allantoin and guanidin. The creatinin is the controlling agent, but the two others mentioned impart to the creatinin *more efficacy*.

This remedial composition is intended to be taken internally in the form of sirup, pastils, pills or the like. It may for example advantageously be of the following composition: 0.20 part by weight of chemically prepared creatinin, 0.01 part by weight of guanidin, 0.10 part by weight of allantoin, 100.00 part by weight of water. This solution is mixed with a small quantity of an excipient substance such as for instance acid pulp of tamarind or a few drops of lemon juice or an organic acid, for example malic or tartaric or citric or succinic acid and the like. Sugar may also be added. The acids are employed for acidulating the paste of the pastils or other forms of the remedy in order to prevent the creatinin from being converted into creatin which has no efficacy at all.

It is to be understood that I do not confine myself to the above mentioned proportions, although those given I have found from practice to give the best results.

I claim as my invention:

1. A medicinal composition for internal use containing chemically prepared creatinin, guanidin and allantoin.

2. A medicinal composition for internal use comprising the following ingredients: 0.20 part by weight of creatinin, 0.01 part by weight of guanidin, 0.10 part by weight of allantoin, 100.00 parts by weight of water, with which is mixed an excipient substance.

In testimony whereof I have affixed my signature in presence of two witnesses. ALOIS VIQUERAT

Witnesses:
Rod De Wurstemberger,
G. Imer.

It appears that the inventor is dead, and that his estate took out the patent. Since this great benefactor should have been, by the use of his preparation, immune to practically all diseases, he must have died of senility, although this seems hardly to have been the case. Assuredly granting patents on such claims ought to be sufficient to show the need of a change in the methods of granting patents—at least of the methods governing the issuance of patents for medicinal products.

DECENCY PAYS

The Phoenix Republican Proves It

"We can't afford to do it!" Such is the plea, or excuse, of the average newspaper carrying fraudulent medical advertising when asked to *drop* this source of revenue. Public opinion is shaping itself so rapidly that the time is not far off when newspapers will find that they cannot afford to *carry* fraudulent advertising. It has been repeatedly shown that where publications have thrown out the fraudulent medical advertisements from their pages they have gained not only in self-respect and in the respect of their readers, but in advertising receipts. More and more is it becoming evident that the decent advertiser favors the paper that caters to decent advertising.

This as a preface to an editorial in the Phoenix (Ariz.) *Republican*, Dec. 14, 1913. It is entitled "New Standard of Newspaper Decency." Here it is:

"When the *Republican*, not quite a year ago, determined to eliminate patent medicine and other objectionable advertising from its columns it expected no other reward than a satisfied conscience. The management was aware that it was about to cut off a source of considerable revenue, and it did not figure that another would in consequence succeed it. The striking out of this kind of advertising was one way of improving the *Republican*, and newspapers cannot be improved without expense or financial sacrifice.

"Patent medicine advertisements are offensive to a large number of, though not all, intelligent readers. A certain class of such advertisements, those relating to secret diseases and others relating to appliances and mixtures which suggest in themselves only an immoral use, are offensive to all decent readers.

"The *Republican* believed that as the bearer of such messages from advertisers it would not be true to its mission as a family or home newspaper, and it therefore determined that its advertising pages should be purged. Though its action was independent and, in any event, would have been taken, though it stood alone, the *Republican* enlisted in a movement for newspaper reform which is spreading all over the country. A large number of the better known newspapers are now throwing out patent medicine and other offensive advertising, but it is a matter of pride to the *Republican* that it is making a more thorough clean-up than any other secular newspaper of which we have any knowledge.

"The *Republican* has found other reward than the approval of its own conscience. The eliminated advertising has been followed by a considerably increased volume of decent advertising. The patent medicine people used to be tyrannical when the papers were clamoring for their business. They not only insisted on the best positions, but designated the kind of matter that should appear next to their advertisements, and even proscribed other kinds of advertising on the same page. When the *Republican* began throwing out patent medicine advertisements the space thus cleared was taken by legitimate foreign advertising. *The patent medicine people are now* clamoring to get back into the *Republican* on any terms on 'any old' page. They are willing to leave the matter of position entirely to the foreman.

"The approval of the people of Phoenix and the state has been given this cleaning up of the advertising columns in a much more substantial manner than we expected. As a matter of fact, we had expected *no increase* of subscriptions in consequence. Yet within the period in which most of the advertising contracts expired and when they were dropped, there has been a steady and rapid increase in the *Republican's* volume of circulation as was shown in the published statement of yesterday and to-day. The *Republican* is naturally proud of the class of subscribers who have been attracted by this particular improvement.

"The time, we believe, is near when a patent medicine advertisement will be found in no newspaper which prefers any claim to decency. Newspaper times have changed and are changing."

When will the medical profession demand of its own publications the same regard for decency and truthfulness in advertising that public opinion is requiring of lay publications!

A CONTRAST

Our readers will be interested in comparing the attitude of two drug manufacturers toward the recent scientific investigation of natural and synthetic salicylates by the Council on Pharmacy and Chemistry. The Merrill Company meets the facts which were unfavorable to their claims by the familiar weapons of innuendo and abuse. The following excerpts are taken from the *Therapeutic Digest*, the house organ of Wm. S. Merrill Chemical Company for November, 1913.

> After the publication of a number of articles in THE JOURNAL by laboratory workers more or less closely associated with the Council on Pharmacy and Chemistry, *a final statement has been issued in* the usual form and pomp of authority characteristic of that body, that there is no difference in the action of salicylates and that the statements that differences exist are unfounded.
>
> No objection can be made to the members of the Council holding whatever opinion or reaching conclusions that may seem to them wise in the light of their limited experience. The Council is however never satisfied with an expression of its own views, but must force them onto others whose experience may contradict them and it denies expression of the opposing view in the pages of THE JOURNAL.
>
> For the blind followers of the Council the question of the salicylates seems to have been finally settled by this medicopapal bull, but for the independent and self-respecting physician no question can be settled by the autocratic edict of a self-constituted authority.
>
> The recent dictum of the Council as to the salicylates is said to be based on clinical experience as well as laboratory experiments, but the experiences themselves are kept profoundly secret.

The falsity of the last statement is shown by the fact explained in Dr. Hewlett's paper in THE JOURNAL, Aug. 2, 1913, p. 320, that the summaries of these cases have been published in reprints of Dr. Hewlett's article and are available to any one on receipt of a two-cent stamp.

In contrast to the foregoing, it is gratifying to read the following fair reference to the results of the Council investigation in *Lloyd Brothers' Bulletin*:

> We have always asserted that the superiority of natural salicylic acid, if it be superior to the artificial, depends on the presence or absence of by-products peculiar to each. The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry, through Dr. W. A. Puckner, secretary, has decided as follows (see JOURNAL A. M. A., Sept. 20, 1913, p. 979):
>
> 1. Contrary to certain statements in the older literature there is no difference in the toxic dose for animals between 'natural' sodium salicylate, the most highly purified synthetic, and the cheapest commercial sodium salicylate on the market.
>
> 2. The evidence for the claimed clinical differences, as found in medical literature, is extremely unsatisfactory and inconclusive.
>
> 3. No significant chemical impurities are present in commercial synthetic salicylate.
>
> 4. No difference can be detected clinically, either in the therapeutic or toxic effects, if the comparison is made under conditions which strictly exclude personal bias.
>
> *The Council therefore concludes* that there is no difference in the actions of 'natural' and synthetic salicylates, and that statements that differences exist are unfounded."

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

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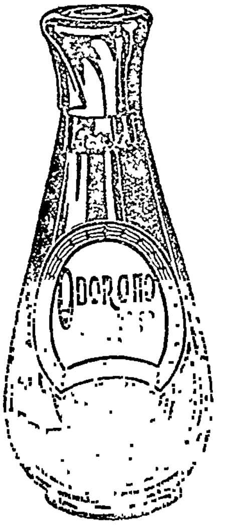


Odor o-no has been extensively advertised and evidently has a large sale More than a year ago the Indiana State Board of Health warned the public against the use of this preparation. Mr. William D. McAbee, drug chemist of the Department of Food and Drugs, declared that "Odor o no" was a solution of aluminum chlorid which, when applied to the skin, would be decomposed and act as a violent irritant. Several instances were reported to have been brought to the attention of the state board in which "Odor o no" had caused ulcers.

In the latter part of September of this year an inquiry was received about "Odor-o-no" and the report of the Indiana state chemists was sent to our correspondent. This information apparently did not satisfy the correspondent, who complained that it was a year old and that he understood "the manufacturer of 'Odor-o-no' had made some changes in his formula." In view of this and the numerous other inquiries received, it was thought worth while to analyze "Odor-o-no" in the Association's laboratory. The chemist's report follows:

CHEMIST'S REPORT

"Two original, sealed bottles of 'Odor-o no,' manufactured by the Odorono Company, Cincinnati, Ohio, were purchased by the Chemical Laboratory of the American Medical Association, from a local supply house, and subjected to a chemical examination. The bottles contained a rose scented, red liquid, which was acid to litmus paper. The specific gravity of the liquid was 1.16. The following constituents were demonstrated to be present: aluminum, sodium, chlorid (traces of sulphate) and a red dye.

"The quantitative relations were found to be as follows:

Aluminum (Al)	3 38	per cent
Chlorid (Cl)	14.12	per cent
Sodium (Na)	0 17	per cent
Water and perfume (by difference)	82 33	per cent.
	100 00	per cent

"Inasmuch as the solution was acid, the difference between the chlorid found and that calculated from the percentage of aluminum and sodium present, is attributed to free hydrochloric acid. Calculation shows 100 c.c. of the solution to be composed essentially as follows:

Aluminum chlorid ($AlCl_3,6H_2O$)	38 8	gm
Hydrogen chlorid (HCl)	0 86	gm.
Sodium chlorid (NaCl)	0 48	gm.
Water and aromatics to make	100	c c.

"A third sealed bottle was purchased Nov. 15, 1913, directly from the manufacturers. Aluminum chlorid was found to be present as the essential constituent in this specimen also, and a trace of sulphate was found. For practical purposes 'Odor-o-no' may be looked on as a 33 per cent. solution of aluminum chlorid (hydrous.)"

SUMMARY

Evidently the rumor that the manufacturers of "Odor-o-no" had changed their formula is without foundation. The stuff is essentially what it was more than a year ago, a solution of aluminum chlorid. When "Odor-o-no" is placed on the skin, the perspiration decomposes it into aluminum hydroxid and hydrochloric (muriatic) acid. The acid of course will attack the skin, while the aluminum hydroxid (or oxid) is apt to clog the pores The preparation is both fraudulent and dangerous.

THE KANSAS VIEWPOINT

"We hope the physicians of Kansas will not lose sight of the fact that no drug is advertised in the pages of their state journal that has not been approved by the Council on Pharmacy and Chemistry of the *American Medical Association*. No doubt there are many remedies used by the profession of the state which have not thus been approved, but it should not be so. The Council has no exactions that cannot be met by any honest firm. The Council is the only body which stands as a protector of the medical profession against misrepresentation and fraud on the part of unscrupulous manufacturing chemists. It is, as it were, like a clearing house, which sets the seal of approval on preparations that are offered to the medical profession.

"If a doctor goes to a town where he is not known and asks for credit, he is promptly met with a request for recommendations. His own word is not accepted as evidence of his responsibility. If he wishes to borrow money from a bank, the bank officials may be morally certain that the obligation will be canceled according to promise, but before the money is handed over, your name must be appended to a note and perhaps, too, that of a friend to endorse it. No one takes exception to this fair and business-like way of conducting business.

"Likewise, we should demand that preparations which we are asked to use, shall have the endorsement of the Council, and there is no good and sufficient reason why the manufacturers should offer the slightest objection to the requirement; in fact, the endorsement of the Council should be sought rather than shunned"—H. B. C. in the *Journal of the Kansas State Medical Society*.

AN EXAMPLE OF U. S. PATENT OFFICE WISDOM

As an illustration of the kinds of patents that are issued by the U. S. Patent Office, we give in full a patent granted Dec. 9, 1913. The number is 1,081,069, Serial No. 665,142.

To whom it may concern:

Be it known that I, Alois Viquerat, *doctor of medicine*, a citizen of Switzerland, residing at Lausanne, Canton of Vaud, in the Confederation of Switzerland have invented certain new and Useful Improvements in Medicinal Compositions, of which the following is a specification

The present invention relates to a composition which is intended to be used internally and which confers to the organisms immunity against the following microbial infectious illnesses: *diphtheria, pneumonia, typhus, scarlet fever, influenza, septic infections, cerebral spinal meningitis, syphilis, pest, cholera and tuberculosis; it is also effective in another kind of disease, viz goiter* [Italics not in original —ED]

This remedial composition or substance does not contain any substances strange to the organism Therefore the innocuity of the remedy is perfect The principal of these substances is creatinin, creatinin used alone in the quantity of from 0 05 gram to 0 10 gram is a sure remedy against diphtheria For all other diseases already mentioned pneumonia, typhus, scarlet fever, influenza, septic infections, cerebral spinal meningitis, syphilis, pest, cholera, tuberculosis and goiter, it is preferable to mix with the creatinin two other substances, allantoin and guanidin The creatinin is the controlling agent but the two others mentioned impart to the creatinin *more efficacy*

This remedial composition is intended to be taken internally in the form of syrup, pastils, pills or the like. It may for example advantageously be of the following composition: 0 20 part by weight of chemically prepared creatinin, 0 01 part by weight of guanidin, 0 10 part by weight of allantoin 100 00 part by weight of water This solution is mixed with a small quantity of an excipient substance such as for instance acid pulp of tamarind or a few drops of lemon juice or an organic acid, for example malic or tartaric or citric or succinic acid and the like Sugar may also be added The acids are employed for acidulating the paste of the pastils or other forms of the remedy in order to prevent the creatinin from being converted into creatin which has no efficacy at all

It is to be understood that I do not confine myself to the above mentioned proportions, although those given I have found from practice to give the best results

I claim as my invention

1 A medicinal composition for internal use containing chemically prepared creatinin, guanidin and allantoin

2 A medicinal composition for internal use comprising the following ingredients 0 20 part by weight of creatinin, 0 01 part by weight of guanidin 0 10 part by weight of allantoin, 100 00 parts by weight of water, with which is mixed an excipient substance

In testimony whereof I have affixed my signature in presence of two witnesses
Alois Viquerat

Witnesses
Rod De Wurstemberger,
G Imer

It appears that the inventor is dead, and that his estate took out the patent Since this great benefactor should have been, by the use of his preparation, immune to practically all diseases, he must have died of senility, although this seems hardly to have been the case Assuredly granting patents on such claims ought to be sufficient to show the need of a change in the methods of granting patents—at least of the methods governing the issuance of patents for medicinal products

DECENCY PAYS

The Phoenix Republican Proves It

"We can't afford to do it!" Such is the plea, or excuse, of the average newspaper carrying fraudulent medical advertising when asked to *drop* this source of revenue Public opinion is shaping itself so rapidly that the time is not far off when newspapers will find that they cannot afford to *carry* fraudulent advertising It has been repeatedly shown that where publications have thrown out the fraudulent medical advertisements from their pages they have gained not only in self respect and in the respect of their readers, but in advertising receipts More and more is it becoming evident that the decent advertiser favors the paper that caters to decent advertising

This as a preface to an editorial in the Phoenix (Ariz) *Republican*, Dec 14, 1913 It is entitled 'New Standard of Newspaper Decency " Here it is

"When the *Republican*, not quite a year ago, determined to eliminate patent medicine and other objectionable advertising from its columns, it expected no other reward than a satisfied conscience The management was aware that it was about to cut off a source of considerable revenue, and it did not figure that another would in consequence succeed it The striking out of this kind of advertising was one way of improving the *Republican*, and newspapers cannot be improved without expense or financial sacrifice

"Patent medicine advertisements are offensive to a large number of, though not all, intelligent readers A certain class of such advertisements, those relating to secret diseases and others relating to appliances and mixtures which suggest in themselves only an immoral use, are offensive to all decent readers

"The *Republican* believed that as the bearer of such messages from advertisers it would not be true to its mission as a family or home newspaper, and it therefore determined that *its advertising pages should be purged Though its* action was independent and, in any event, would have been taken, though it stood alone, the *Republican* enlisted in a movement for newspaper reform which is spreading all over the country A large number of the better known newspapers are now throwing out patent medicine and other offensive advertising, but it is a matter of pride to the *Republican* that it is making a more thorough clean up than any other secular newspaper of which we have any knowledge

'The *Republican* has found other reward than the approval of its own conscience The eliminated advertising has been followed by a considerably increased volume of decent advertising The patent medicine people used to be tyrannical when the papers were clamoring for their business They not only insisted on the best positions, but designated the kind of matter that should appear next to their advertisements, and even proscribed other kinds of advertising on the same page. When the *Republican* began throwing out patent medicine advertisements the space thus cleared was taken by legitimate foreign advertising The patent medicine people are now clamoring to get back into the *Republican* on any terms on 'any old' page They are willing to leave the matter of position entirely to the foreman

'The approval of the people of Phoenix and the state has been given this cleaning up of the advertising columns in a much more substantial manner than we expected As a matter of fact, we had expected no increase of subscriptions in consequence Yet, within the period in which most of the advertising contracts expired and when they were dropped, there has been a steady and rapid increase in the *Republican's* volume of circulation as was shown in the published statement of yesterday and to day The *Republican* is naturally proud of the class of subscribers who have been attracted by this particular improvement

The time, we believe, is near when a patent medicine advertisement will be found in no newspaper which prefers any claim to decency. Newspaper times have changed and are changing"

When will the medical profession demand of its own publications the same regard for decency and truthfulness in advertising that public opinion is requiring of lay publications!

A CONTRAST

Our readers will be interested in comparing the attitude of two drug manufacturers toward the recent scientific investigation of natural and synthetic salicylates by the Council on Pharmacy and Chemistry The Merrill Company meets the facts which were unfavorable to their claims by the familiar weapons of innuendo and abuse The following excerpts are taken from the *Therapeutic Digest*, the house organ of Wm. S. Merrill Chemical Company for November, 1913.

> After the publication of a number of articles in The Journal by laboratory workers more or less closely associated with the Council on Pharmacy and Chemistry, a final statement has been issued in the usual form and pomp of authority characteristic of that body, that there is no difference in the action of salicylates, and that the statements that differences exist are unfounded '
>
> No objection can be made to the members of the Council holding whatever opinion or reaching conclusions that may seem to them wise in the light of their limited experience The Council is, however never satisfied with an expression of its own views but must force them onto others whose experience may contradict them and it denies expression of the opposing view in the pages of The Journal
>
> For the blind followers of the Council the question of the salicylates seems to have been finally settled by this medicopapal bull, but for the independent and self respecting physician no question can be settled by the autocratic edict of a self constituted authority
>
> The recent dictum of the Council as to the salicylates is said to be based on clinical experience as well as laboratory experiments, but the experiences themselves are kept profoundly secret

The falsity of the last statement is shown by the fact explained in Dr Hewlett's paper in The Journal, Aug 2, 1913, p 320, that the summaries of these cases have been published in reprints of Dr Hewlett's article and are available to any one on receipt of a two cent stamp

In contrast to the foregoing, it is gratifying to read the following fair reference to the results of the Council investigation in *Lloyd Brothers' Bulletin*

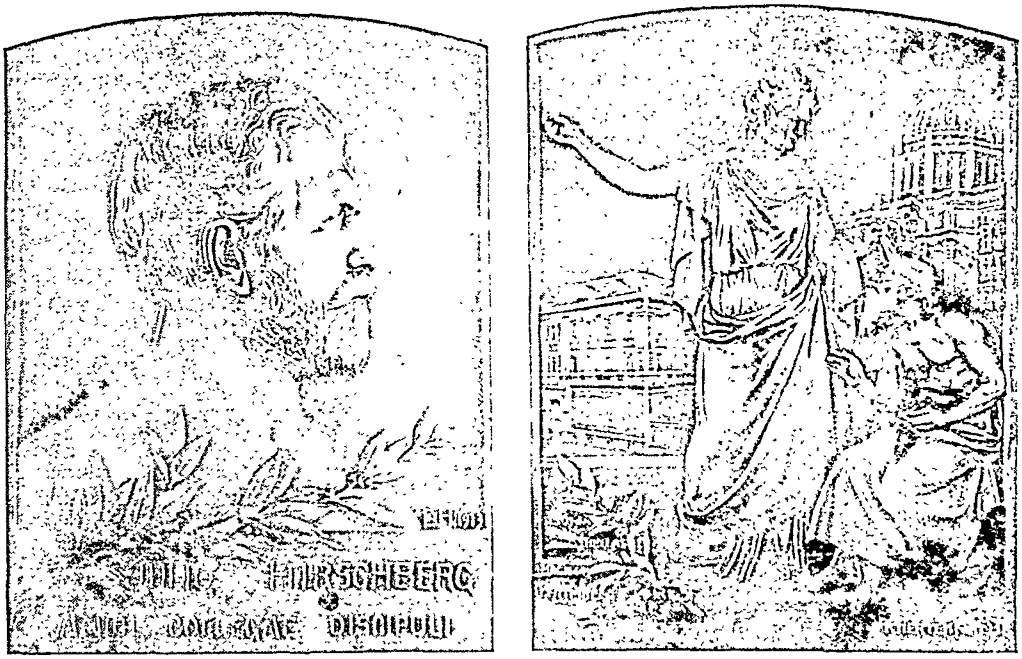
> We have always asserted that *the superiority of natural salicylic* acid if it be superior to the artificial, depends on the presence or absence of by products peculiar to each The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry, through Dr W A Puckner, secretary, has decided as follows (see Journal, A M A Sept 20, 1913, p 979)
>
> '1 Contrary to certain statements in the older literature, there is no difference in the toxic dose for animals between 'natural' sodium salicylate the most highly purified synthetic, and the cheapest commercial sodium salicylate on the market
>
> 2 The evidence for the claimed clinical differences, as found in medical literature, is extremely unsatisfactory and inconclusive
>
> '3 No significant chemical impurities are present in commercial synthetic salicylate
>
> 4 No difference can be detected clinically, either in the therapeutic or toxic effects, if the comparison is made under conditions which strictly exclude personal bias
>
> 'The Council therefore concludes that there is no difference in the actions of 'natural and synthetic salicylates, and that statements that differences exist are unfounded"

Correspondence

A Well-Merited Honor to Julius Hirschberg of Berlin

To the Editor:—Julius Hirschberg was 70 years old. September 18. His friends, pupils and colleagues joined in celebrating the event by the publication of a selection from his medical writings from 1868 to 1912 in a stately volume of almost 900 pages, a volume splendidly arranged and most useful for reference and for study (Julius Hirschbergs ausgewählte Abhandlungen (1868-1912) zu seinem 70. Geburtstage, Ihm ueberreicht im Namen seiner Schüler von Oscar Fehr und Wilhelm Mühsam, Veit & Co., Leipsig, 1913).

On the evening of September 18 a banquet was arranged in Dr. Hirschberg's honor in Berlin, and on this occasion a medallion was presented to him. Among those who subscribed to this testimonial was the Section on Ophthalmology of the American Medical Association, of which Dr. Hirschberg has been an honorary member since 1905. The medallion (6 by 8 cm.) is a work of art and presents a striking likeness of Dr. Hirschberg. On the reverse is a beautiful design showing Ophthalmic Science raising the veil from the blind. On one side the royal palace at Berlin is seen in the distance, on the other the old eye clinic, which is familiar to so many American ophthalmologists. In the corner below are stacked up the more important works which Hirschberg has published.



Medallion to Julius Hirschberg: obverse and reverse.

It is gratifying to his friends that the American profession through the Section on Ophthalmology participated in showing honor to this veteran of ophthalmology.

Harry Friedenwald, M.D., Baltimore.

The Misuse of Scientific Articles by Proprietary Manufacturers

To the Editor:—Some years ago I read a paper before the Harlem Medical Association concerning "Conjunctivitis and Its Treatment." The Dios Chemical Company of St. Louis has made use of this article in advertising its product, "Palpebrine." While the company makes no statement to the effect that I indorse the preparation, it is evident that both physicians and laymen get the impression that my paper is in the nature of a testimonial of "Palpebrine."

The facts are, I do not use "Palpebrine," do not know its composition, and would not use it if I did know. To my mind such preparations are altogether unnecessary. I wrote to the Dios Chemical Company, protesting against this use of my paper and received word from it to the effect that no more pamphlet reprints of the paper would be sent out.

Frank Van Fleet, M.D., New York City.

Comment.—The misuse of scientific articles by proprietary manufacturers is not so common to-day as it used to be, but as Dr. Van Fleet's letter shows, the practice is evidently not entirely obsolete. If every physician whose name is used as an advertising asset by nostrum manufacturers would protest, this particular evil could be entirely abolished.

Activity of Parke, Davis' Detail Men

To the Editor:—A representative of Parke, Davis & Company, either of his own accord or in accordance with instructions, is making certain statements to the physicians of this district that are, it seems to me, worthy of consideration. He states that the Council is composed of a body of men who are, for purely personal reasons, hostile to P. D. & Co., and that they at one time said that they "would get P. D. & Co.," that P. D. & Co. had only recently prevented them from making a report on a sixteen-year-old sample of fluidextract of ergot, P. D. & Co.; that some time ago the Council had requested P. D. & Co. to submit an unstandardized sample of fluidextract of digitalis, U. S. P., for examination, but at the same time had permitted H. K. Mulford & Company to submit their standardized product not made in accordance with the U. S. P., and that a report published some time ago in The Journal was on different fluidextracts, and not U. S. P. extracts, and, finally, that P. D. & Co. were an immensely wealthy concern hiring the best experts that money could get; that they paid *no attention to the Council* and proposed to destroy it.

I am inclined to believe that this is a part of a well defined campaign of education (?) that is being carried on by the employees of P. D. & Co. wherever they may be, and that the attention of the profession should be called to it.

J. C. Stone, M.D., Wayland, Iowa.

The Quality of Drugs Sold to Dispensing Physicians

To the Editor:—The following letter, signed "Frank G. Ryan, President," has been sent to medical and pharmaceutical journals by Parke, Davis & Co.:

> "Will you do us the kindness to read pages 858 and 859, Journal of the A. M. A., September 13? Notice the slurring statement that our Fluid Extract Digitalis, U. S. P., is only 57.66 + per cent. potent.
>
> "A glance at the enclosed labels will show you that we market two fluid extracts of Digitalis—one, No. 597 (which was NOT tested by Puckner and Hatcher), F. E. Digitalis, P. D. & Co., which is PHYSIOLOGICALLY STANDARDIZED AND STRONGLY ALCOHOLIC; the other, No. 209, F. E. Digitalis, U. S. P., which is not *physiologically standardized. Observe the very explicit language* of the 'Note' at the foot of each label. Could anything be plainer or more definite?
>
> "In Dr. Puckner's tests he includes—doubtless for good and sufficient reasons of his own—our F. E. Digitalis, U. S. P., which we market only in deference to an existing demand; but the superior product which we standardize physiologically, and which we expressly recommend as more reliable and active than the official, he omits wholly from his comparison.

> "We contend that the official menstruum is not the one best fitted properly to extract the drug, that the fluid extract made by use of the official menstruum deteriorates rapidly, that this menstruum is inferior to the one we use for our F E Digitalis P D & Co, No 597, and that the U S P extract does not come up to our own standard as represented by the last mentioned product We do claim, however, that our F E Digitalis, U S P, is made from the best quality of drug in strict harmony with the official process We do not standardize it, we have never pretended to
>
> 'Furthermore, Dr Hatcher's 'cat method' of testing Fluid Extract Digitalis is rejected by Edmunds and Hale whose opinion of the 'cat method' is unquestionably shared to day by the vast majority of competent pharmacologists see Bulletin No 48 issued by the Hygienic Laboratory of the U S Public Health Service

One of Parke, Davis & Co's house organs, the *Bulletin of Pharmacy*, in its issue for December, 1913, p 486, contains a similar statement From this I quote

> 'W A Puckner the chemist of the American Medical Association, contributed a paper to a recent number of The Journal of the A M A, reporting among other things upon an examination made of various fluid extracts of digitalis upon the American market Parke Davis & Co was one of the four manufacturers involved and its fluid extract was said to be only 57 66 per cent of the standard We are informed by that house [the reader should bear in mind whose journal it is that is speaking], however, that for two reasons the findings of Dr Puckner are grossly unjust and fallaciously misleading"

According to reports which I have received, Parke, Davis & Co's detail men appear to have taken their stock arguments *from the matter quoted above* Parke, Davis & Co have thus attempted to create the impression that I discriminated against them in the paper referred to—"The Quality of Drugs Sold to Dispensing Physicians" Specifically, they complain that this examination included their regular U S P Fluid Extract of Digitalis, but did not include their own special, non official preparation

As Parke Davis & Co *seem to have misunderstood* the principles which governed the selection of the drugs for the examination, and as those who received their letter or listened to the firm's detail men may be misled, I wish to emphasize that the examinations reported on in my paper were in no way concerned with any firm's special or proprietary preparation, but dealt only with the regular, non proprietary, standard official drugs The principle on which the drugs were selected was to obtain those that the physician would have obtained had he written a prescription or sent to the source of his supplies Thus, in the case of fluidextract of digitalis the regular U S P title was used in ordering all of the brands, the order reading "Fluid Ext Digitalis, P D & Co" 'Fluid Ext Digitalis, Mulford," etc The examination of the fluidextracts of digitalis was an attempt to learn the quality of the market supply — the kind which the druggist, the physician and the patient would get I must say, however, that I was surprised to learn that Parke, Davis & Co should permit a preparation of digitalis to leave their establishment without biologic control I am all the more surprised in view of this statement, found in the firm's 1911 1912 catalog (the latest I have)

> All our Fluid Extracts are adjusted to a fixed alkaloidal or other standard, in cases where chemical reactions are not available, as with digitalis, aconite, ergot and a few others test is made on animals by methods which yield reliable data, not only of quality, but of degree of activity"

Evidently "All our Fluid Extracts" does not include fluid extract of digitalis, U S P.

Parke, Davis & Co contend that the official process is likely to produce a preparation which is weak and unstable, but the labels of Parke, Davis & Co and the Mulford Company products are practically identical so far as both declare the preparations to be "Fluid Extract Digitalis, U S P," to contain practically the same percentage of alcohol and to have been made at about the same time, the former Sept 3, 1912, and the latter Nov 23, 1912

In this connection it might be pertinent to call attention to another very important fact While Parke, Davis & Co are trying to evade responsibility by making it appear that the official fluidextract cannot be expected to be of good quality, at the same time the firm considers itself justified in saying that the U S P tincture may be prepared from it The following appears on the label of the Parke Davis & Co specimen examined

"Formula Tincture Digitalis U S P

Fld Ext Digitalis U S P	1 3/5	fluidounces
Diluted alcohol, sufficient to make .	16	fluidounces"

If the Parke Davis & Co fluidextract of digitalis, U S P, is not sufficiently active and reliable to represent the leaf perfectly—and the firm now admits this—it is extremely difficult to understand how they can justify their recommendation to pharmacists that the tincture be made in this way

The claim that Edmunds and Hale in Bulletin 48 of the *Hygienic Laboratory of the United States* Public Health Service had rejected Hatcher's "cat method" is unfair because the Hatcher method did not appear until about two years after the publication of this bulletin It is true that a cat method was reported on, but it was in no way so elaborate or so carefully worked out as the Hatcher method Although the Hatcher method has not been widely adopted it is generally conceded that by its use the comparative activity of digitalis preparations may be determined correctly

In conclusion let me say that this investigation of digitalis preparations was made in the interest of the public, the medical profession and scientific pharmacy and medicine, my paper was written, read before a section of the American Medical Association and published solely for the purpose of giving the medical profession the actual facts without fear of, or favor to, any firm, be it large or small

W A Puckner,
Director, Chemical Laboratory of the American
Medical Association

Hoffa's Statement as to Determining the Condition of Muscle

To the Editor —In the article on "The Treatment of Paralysis of Anterior Poliomyelitis" (The Journal, Dec 20, 1913, p 2219) there occurs a statement which is so very inaccurate that it seems to me to require correction After speaking of the difficulty of determining the power of the muscle by electrical examination Dr Frauenthal says, 'Hoffa always cut down on the muscle to determine its character" What Hoffa (*Orthopadische Chirurgie*, Ed 5, 1905, p 142) really said, in speaking of tendon transplantation, was as follows "If in spite of the closest examination, one is not prepared to decide whether the muscle in question is wholly or partly paralyzed, one may obtain information at the operation itself if one exposes not only the tendon but the belly of the muscle itself by a longer incision"

Robert W Lovett, M D, Boston

Stethophone and Stethoscope

To the Editor —Kindly permit me to say to Dr Joseph H Barach of Pittsburgh that "stethoscope" is really a genuine Greek word meaning, exactly, an instrument to *examine* the chest It appears that Dr Barach's Greek English dictionary is imperfect It is to be regretted that Dr Barach uses such hybrid terms as "auriscope" and "dictaphone"

A Rose, M D, New York

Quarantine and Individual Inconvenience —It is neither the province nor the intention of the Department of Health to give an individual or the public the preference over the other in quarantine matters This does not always seem so from the individual's point of view in cases of communicable diseases While quarantine may, *in some instances, result in* personal inconvenience and often in hardships, yet the safety of the community must be the first consideration The same measures which work an apparent hardship also serve as a protection This is a well established principle in public health administration and has been upheld by the courts The convenience of the few must be subject to the safety of the many —Buffalo *Sanitary Bull*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address, but these will be omitted, on request.

SALOMON-SAXL URINE-SULPHUR TEST FOR CANCER

To the Editor —Please publish in detail the Salomon-Saxl urine-sulphur test for cancer

O C BREITENBACH, M D, Frazee, Minn

ANSWER —For this reaction, dilute 150 c.c. of urine with 100 c.c. distilled water (albuminous urine must first be boiled, treated with a small quantity of acetic acid and carefully filtered); then add 150 c.c. Salkowsky's barium solution (a mixture of 2 parts barium hydroxid solution, saturated at room temperature, with 1 part barium chlorid solution saturated at room temperature). Filter and to the clear filtrate add more reagent to insure complete precipitation Then the ethereal sulphates are removed from the entire filtrate by adding 30 c.c. hydrochloric acid (specific gravity 1.12), transferring to a 500-c c flask, covering with a small funnel and *heated to boiling on an asbestos mat, with a small flame,* for an hour The flask is then covered with a beaker and allowed to stand on a water bath till the supernatant liquid is clear (requiring from four to twenty four hours). Now filter twice through a double "barium filter," small; wash the flask with sodium hydroxid solution and distilled water; boil again, using same precautions as above, and filter through a double "barium filter" (If there is still more precipitate formed, place the flask on the water bath again.) Now treat 200 c.c. of the filtrate with 3 c.c. strong hydrogen peroxid solution (perhydrol Merck) and boil fifteen minutes, covering again with the funnel, in the same flask. Now the liquid is poured into a sedimentation glass and then observed in from one-half to four hours In cases of carcinoma a decided sediment will be observed, while a normal urine may show a trace of such a sediment; as a rule normal urine does not show a sediment in four hours—but some time later a trace of ethereal sulphate not properly removed as above may show. The sediment obtained in case of carcinoma is usually some what colored, but this color can be removed by alcohol ether.

"HYDROCYANATE OF IRON—TILDEN"

To the Editor —Is it advisable to give "Hydrocyanate of Iron," prepared by the Tilden Company, St. Louis, in a case of epilepsy?

GEORGE F WAY, M D, Buffalo, Ill

ANSWER —It certainly is not advisable to give this substance if for no other reason than that it is a secret preparation. If we judged from the name, it would indicate that the preparation is a cyanid of iron, and a careful physician would hardly wish to give his patients any form of cyanids; but an examination of this nostrum by the Chemical Laboratory of the American Medical Association showed that it is essentially a mixture of approximately equal parts of talc and Prussian blue, containing traces of organic matter having the general properties of alkaloids Prussian blue is a remedy that has been used for epilepsy and found wanting; hence its use has been abandoned.

For further information see THE JOURNAL, June 19, 1909, p. 2008.

NOMINATORS AND ADJUDICATORS OF THE NOBEL PRIZE FUND

To the Editor:—Please give me the names and addresses of those who have charge of the Nobel prize awards

HARRY FEAGLES, M D, Morton, Wash

ANSWER —The president of the board of control administering the Nobel Prize Fund is A. F. C. Wachtmeister, Kungl Karolinska Medico Kirurgiska Institutet, Stockholm, Sweden.

Following are the prize adjudicators of the Nobel Prize Fund:

For physics and chemistry: Kungl. Svenska Vetenskapsakademien, Stockholm. The secretary of the commission is Knut W. Palmær, Kungl. Tekniska Högskolan, Stockholm.

For medicine: Kungl. Karolinska Medico-Kirurgiska Institutet, Stockholm. The president of the commission is K. A. H. Mörner, Stockholm.

For literature: Svenska Akademien, Stockholm. The secretary of the commission is E. W. Dahlgren, Stockholm.

For peace: The Norwegian Nobel committee.

Only certain persons are eligible to hand in names of candidates for the various prizes. The following includes those eligible to send in names for the prizes in medicine:

Members of the professional staff of the Karolinska Institutet.

Members of the medical class in the royal academy of science

Those persons who have received a Nobel prize in the medical section.

Members of the medical faculties at the Universities of Upsala, Lund, Christiania, Copenhagen and Helsingfors.

Members of at least six other medical faculties to be selected by the staff of the Karolinska Institutet in the way most appropriate for the just representation of the various countries and their respective seats of learning.

Scientists whom the said staff may see fit to select. The selections under Sections 5 and 6 shall be made within the first half of September, the initial proposal to emanate from the Nobel committee.

DETRIMENTAL EFFECTS OF ALBUMIN-MILK

To the Editor —Please refer me to any literature or reports of cases showing detrimental or fatal effects from the use of albumin-milk in acute intestinal disease in infants, following nutritional disturbances from low tolerance of sugars or fat.

P. M, Louisiana.

ANSWER.—Below are given a number of reports by different clinicians on their results with the use of albumin-milk. In nearly every instance the author reports the number of cases treated, the number of cures and the number of deaths:

Beck, Carl *Jahrb f Kinderh.*, 1912, lxxv, 315.
Grulee, C G Albumin-Milk in Infant-Feeding, *Am. Jour. Dis. Child*, September, 1911
Wiede *Therap Monatsh.*, 1911, xxv, 83.
Neff, F C Recent Experiences in the Artificial Feeding of One Hundred Infants, THE JOURNAL, Dec. 23, 1911, p 2068.
Morse, John Lovett The Use of Malt Sugar and High Percentage of Casein in Infant Feeding, *Am. Jour. Dis. Child*, November, 1911, p 315
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AUTHORITIES ON TECHNIC OF COUNTING BACTERIA IN MILK

To the Editor —Please give the most approved technic of counting bacteria in milk P. H. M.

ANSWER.—The technic for these methods is too extensive to be reproduced in THE JOURNAL. The number of bacteria will differ according to the method which is adopted. We would suggest reference to the following authorities:

Hyg Lab Bull 56, U. S *P. H S*, p 437.
Savage, William G: Milk and Public Health, New York, the Macmillan Company, 1912, p. 177.
Standard Methods for the Bacterial Examination of Milk, by Committees of the Laboratory Section, American Public Health Association, reprinted from *Am Jour. Pub. Hyg*, August, 1910.

USE OF ACID SODIUM PHOSPHATE—VALUE OF QUININ IN COLON BACILLUS INFECTIONS

To the Editor:—1 Please discuss briefly the method of administration and dose of acid sodium phosphate when given to acidify the urine.

2 Is there any evidence that quinin sulphate given internally is of value in colon bacillus infections of the urinary tract and other parts of the body? R. G. D.

ANSWER —1. Acid sodium phosphate has been admitted to N. N. R., and its uses are described in that work. It is discussed in a Query and Minor Note, Aug. 3, 1912, p. 387.

2. So far as we can learn, there is no evidence that quinin sulphate is of value in colon bacillus infections.

TREATMENT OF GOITER WITH HIGH FREQUENCY CURRENT

To the Editor:—Has any success been attained in the treatment of simple goiters with the high-frequency current?

GEORGE S GILPIN, M D., Stoutsville, Mo

ANSWER —We can find no reference to such treatment in recent literature. A standard work on electrotherapy which was published in 1913 makes no mention of it.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Alabama: Montgomery, Jan. 13. Chairman, Dr. W. H. Sanders, Montgomery.

Colorado: State Capitol, Denver, January 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

Illinois: The Coliseum Annex, Wabash Ave. and 16th St., Chicago, Jan. 14-16. Acting Sec., Amos Sawyer, Springfield.

Indiana: Room 56 State House, Indianapolis, Jan. 13-15. Sec., Dr. Wm. T. Gott, 56 State House, Indianapolis.

Iowa: The Capitol Bldg., Des Moines, January 6-8. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

Minnesota: State University, Minneapolis, January 6-9. Sec., Dr. Thos. S. McDavitt, 814 Lowry Bldg., St. Paul.

New Hampshire: State House, Concord, January 6-7. Regent, Mr. H. C. Morrison, State House, Concord.

New Mexico: Santa Fe, Jan. 12. Sec., Dr. W. E. Kaser, East Las Vegas.

New York: Jan. 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Albany.

North Dakota: Grand Forks, January 6. Sec., Dr. G. M. Williamson, Grand Forks.

Oklahoma: Oklahoma City, Jan. 13. Sec., Dr. John W. Duke, Guthrie, Okla.

Oregon: Portland, January 6-8. Sec., Dr. L. H. Hamilton, Medical Bldg., Portland.

South Dakota: Capitol Bldg., Pierre, Jan. 13. Sec., Dr. Park B. Jenkins, Waubay.

Vermont: Montpelier, Jan. 13-15. Sec., Dr. W. Scott Nay, Underhill.

Washington: Spokane, January 6-12. Sec., Dr. F. P. Witter, Traders' Block, Spokane.

Wisconsin: Madison, Jan. 13. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Pennsylvania's June Examination—A Correction

A recent communication from the office of the Bureau of Medical Education and Licensure of Pennsylvania indicates that, in the report of the June examination published in The Journal of Nov. 15, 1913, through an error in copying, a failure was charged against Howard University, Medical Department. The candidate who failed was a graduate of the Harvard Medical School.

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 14-16, 1913. The number of subjects examined in was 13; the total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 12, of whom 9 passed and 1 failed. Two candidates were conditioned. Seventeen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Boston University School of Medicine	(1899)	70.8*
Harvard Medical School	(1911)	80.3
University of Michigan, Dept. of Med. and Surg.	(1902)	81.6
Jefferson Medical College	(1913)	83
University of Pittsburgh	(1913)	79
University of Virginia	(1911)	89.8
University of Toronto	(1911)	76.9, 83.7
University Sv. Vladimira, Russia	(1897)	84.6

*Allowance of 10 per cent for 14 years of practice.

FAILED

College	Year Grad.
Michigan College of Medicine and Surgery	(1904)*
Syracuse University College of Medicine	(1892)+*
University of Toronto	(1913)+*

* No grade given.
+*Conditioned in Chemistry.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1912)	Colorado
George Washington University	(1906)	Maryland
Northwestern University	(1910) Indiana, (1911)	Illinois
Rush Medical College	(1891)	Indiana
University of Illinois	(1912)	Illinois
College of Physicians and Surgeons, Baltimore	(1911)	W. Virginia
University of Maryland	(1909)	Penna.
University of Michigan	(1903)	New York
University of Missouri	(1901)	Missouri
Cleveland College of Physicians and Surgeons	(1911)	Ohio
Cleveland-Pulte Medical College	(1911) Ohio, (1912)	Ohio
Western Reserve University	(1909)	Ohio
University of Pittsburgh	(1908)	Penna.
Vanderbilt University	(1889)	Colorado
Marquette University	(1909)	Wisconsin

Iowa September Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Sept. 23-25, 1913. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 17, of whom 15 passed and 2 failed. Fifteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Bennett Medical College	(1911)	84.2
Chicago College of Medicine and Surgery (1909) 87; (1913) 81.9; 83.2; 90.6.		
Northwestern University	(1911)	87
Rush Medical College	(1913)	88.6
University of Illinois	(1913)	88.6
Kentucky School of Medicine	(1907)	92
Harvard Medical School	(1911)	84.4
St. Louis College of Physicians and Surgeons	(1912)	79.1
Jefferson Medical College (1903) 88.5; (1913) 81.6; 85.9.		
University of Pennsylvania	(1905)	91.5

FAILED

St. Louis College of Physicians and Surgeons (1906) 69.6; (1910) 59.7.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1911)	Colorado
Flint Medical College of New Orleans	(1904)	Kansas
Baltimore Medical College	(1908)	Maryland
University of Michigan, Dept. of Med. and Surg.	(1912)	Michigan
American Medical College, St. Louis	(1911)	Missouri
University Medical College, Kansas City	(1906)	Missouri
Washington University, St. Louis	(1910)	Missouri
Cotner Medical College	(1913)	Nebraska
John A. Creighton Medical College (1905) Nebraska; (1911) Nebraska; (1913) Nebraska.		
University of Nebraska	(1913)	Nebraska
New York Homeopathic Medical College	(1884)	Nebraska
Temple University, Medical Department	(1910)	Minnesota
Marquette University	(1911)	Wyoming

Arkansas November Report

Dr. W. S. Stewart, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, Nov. 11-12, 1913. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 25, of which 14 passed and 11 failed. Thirteen candidates were licensed through reciprocity since Aug. 12, 1913. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1910)	80
University of Arkansas	(1913)	75, 80
Kentucky School of Medicine	(1904)	85
Northwestern University	(1911)	92
Rush Medical College	(1881) 75; (1882)	82
Barnes Medical College	(1904)	80
Washington University, St. Louis	(1912)	87
Memphis Hospital Medical College	(1907)	75
University of Nashville	(1906)	76
University of Tennessee	(1901)	82
University of Virginia	(1913)	83
Vanderbilt University	(1913)	80

FAILED

College	Year Grad.	Per Cent.
University of Arkansas..(1911) 65; (1912) 68; (1913) 54, 61, 64.		
College of Physicians and Surgeons, Little Rock	(1910)	36
Louisville and Hospital Medical College	(1908)	56
Meharry Medical College	(1907) 53; (1912)	53
Memphis Hospital Medical College	(1911) 58; (1913)	55

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Atlanta College of Physicians and Surgeons	(1913)	Georgia
Southern Medical College, Atlanta	(1886)	Oklahoma
Kansas Medical College	(1913)	Oklahoma
Hospital College of Medicine, Louisville (1900) Indiana; (1904) Kentucky.		
University of Louisville	(1898)	Texas
Tulane University of Louisiana	(1912)	Louisiana
Maryland Medical College	(1907)	Maryland
Barnes Medical College	(1906)	Oklahoma
St. Louis College of Physicians and Surgeons	(1909)	Illinois
Memphis Hospital Medical College (1891) Oklahoma; (1896) Texas.		
Marquette University	(1913)	Wisconsin

ANATOMY

1. Give the composition of bone. 2. Describe the radius and name bones with which it articulates. 3. To what class of joints does the ankle belong and what parts enter into its formation? 4. Name the muscles of mastication. 5. Give origin and distribu-

tion of superior, middle and inferior hemorrhoidal arteries. 6. Describe the stomach, giving nerve- and blood-supply. 7. Give the number and names of the lobes and ducts of the liver. 8. Give the contents of Scarpa's triangle. 9. Give the origin, course and distribution of eighth nerve. 10. Name the parts severed in amputation about middle of forearm.

PHYSIOLOGY

1. Give the functions of the (a) cerebrum, (b) cerebellum, (c) liver, (d) spleen. 2. Name the five nerve centers located in the lumbar enlargement of the spinal cord. 3. Name the five ductless glands, and give the functions of each. 4. Name the physical properties of normal urine. 5. What is aphasia? Give the different forms and causes of each. 6. How is heat produced in the body? 7. What is the normal ratio of heart pulsation to respiration? 8. Give the source of the white blood-corpuscles and their function. 9. Describe the functions and secretions of the stomach. 10. What nerve centers regulate body temperature?

CHEMISTRY

1. What is oxygen and how prepared? 2. What is water and how may river water be purified? 3. Define analysis and synthesis. 4. What is the principal solid constituent of urine? 5. What is a carbohydrate? 6. Give two tests for sugar in urine, giving details of one you prefer. 7. What is oleic acid? 8. What is vinegar and with what is it most often contaminated as found in the market? 9. What are proteids and from what are they derived? 10. What are ptomains?

PATHOLOGY

1. Define leukocytosis and give its two varieties. 2. What does leukocytosis with a predominance of polymorphonuclear leukocytes indicate? 3. What are the apparent differences in the throat lesions of diphtheria and follicular tonsillitis? 4. Mention some of the pathological lesions that are sometimes the sequelae of diphtheria. 5. Differentiate a chancre and a chancroid. 6. What pathological lesions are productive of icterus? 7. What abnormal products may be found in the urine as a result of interstitial nephritis and chronic parenchymatous nephritis? 8. By examining the fluid removed by a lumbar puncture, how may we distinguish between tubercular and other forms of meningitis? Without making a bacteriological examination, what microscopical findings would cause you to suspect tubercle bacillus? 9. Name some of the various crystals found in abnormal urine and state their significance. 10. Mention six diseases which may result in enlargement of the lymphatic glands.

BACTERIOLOGY

1. Define bacteria, state how they are recognized. 2. What is essential to the life of bacteria? 3. How do we determine if a certain organism is or is not pathogenic? 4. Define toxins, antitoxins and ptomains. 5. What class of bacteria produce rapid-spreading inflammation, and what class produce localized inflammation? 6. Define opsonins and describe the theory of phagocytosis. 7. How would you do a Widal reaction? 8. Name two methods of staining blood-specimens for malarial plasmodium; also detail method of examining fresh specimens of blood for malarial plasmodium. 9. Detail method *of producing and staining specimens of Spirochaeta pallida*. 10. Name the chief morphologic characteristics of the organisms producing the following diseases: diphtheria, tetanus, anthrax, gonorrhea and cerebrospinal meningitis.

THERAPEUTICS

1. Explain the difference between empirical and rational therapeutics. 2. How do the various diuretics promote the secretion of urine? 3. What is the method of action of disinfectants? 4. Explain the action of the following on the heart: digitalis, nitroglycerin and strychnin. 5. Give the therapeutics of hexamethylenamin (urotropin). 6. Give directions for preparing normal saline solution, and give indications for use. 7. Give the physiological action of opium. Give treatment of opium poison. 8. Give the therapeutic action of the arsenical compounds in common use. 9. Explain the therapeutic action of diphtheria antitoxin. Give dosage and mention untoward symptoms. 10. What therapeutic agents would you use in the treatment of typhoid fever, and give indications for same.

MATERIA MEDICA

1. Give rule for computing dose for children. State drugs that are an exception to rule, mentioning those that are well tolerated, and those that should be given cautiously. 2. Define alkaloid, glucoside, and neutral principle. Give example of each. 3. Give dose and physiological effect of the following: cocain, strychnin, atropin, pilocarpin and physostigmin. 4. Name five vasodilators and five vasoconstrictors, giving dose of each. 5. How do emetics produce emesis? Name five, giving dose of each. 6. Name the chlorids of mercury, giving general properties and methods of use. 7. Give composition and dose of the following: Fowler's solution, Donovan's solution, Dover's powder, Basham's mixture, and Vallet's mass. 8. What are hypnotics? Name five, giving dose of each. 9. How is anti-meningitis serum prepared? Give dose, method and frequency of each: iodin, salicylic acid, guaiacol, caffeine, and sulphona.

OBSTETRICS

1. Give the physical signs of pregnancy by the following classifications: (1) uterine, (2) vaginal, (3) abdominal, (4) mammary, (5) fetal, (6) reflex, (7) due to pressure and congestion, (8) cutaneous, (9) subjective, (10) Give also Heger's and Braxton Hicks' sign. 2. Define position and presentation, and give diagnostic points of vertex, left occipito anterior position, and breech presentation. 3. State in your own way how you would conduct a normal labor. Let this include your preparation, also the preparation of the patient. 4. Give the mechanism of labor in left occipito anterior position. Also give mechanism of labor in right occipito posterior. 5. Give cause and treatment of puerperal eclampsia. Also give danger signals of eclampsia. 6. Give cause and treatment of post-partum hemorrhage. 7. Give indications for the use of forceps and describe how you would apply in a case of left occipito anterior *position.* 8. Give treatment of puerperal infection. 9. Give causes of sudden death in the puerperum. 10. Give treatment of ophthalmia neonatorum.

GYNECOLOGY

1. Name the more frequent injuries to the mother in childbirth. State how they should be treated. 2. Give symptoms, diagnosis, prognosis and treatment of Neisser infection of the vagina. 3. What are the most frequent causes of pelvic cellulitis? 4. Describe operation for (a) cystocele, and (b) rectocele. 5. Describe the fol*lowing positions: Sims', Trendelenburg's, Fowler's* and *Edebohls'*, and state one or more operative procedures that may be facilitated by their employment. 6. At what period in a woman's life is uterine cancer most frequent, and what symptoms would lead you to suspect same and call for investigation? 7. Describe operation for ventral suspension in retrodisplacement of the uterus, and state what class of patients you would use the method with. 8. Describe Emmett's operation in detail for perineal repair. 9. Give chief points of differentiation between ascites and ovarian cyst. 10. Give causes, classification and treatment of tubal pregnancy.

SURGERY

1. Define infection. How does infection occur? What is specific infection? Give an example. 2. What nerve may become involved, and what paralysis may follow in fracture of the upper third of the humerus? 3. Give the causes and symptoms of a subphrenic abscess. 4. What are the symptoms of floating kidney? Give indications and technic of operation for its correction. 5. Define enterocele, epiplocele. Describe operation for radical cure of umbilical hernia, name tissues that are brought together. 6. Through what channels is carcinoma and sarcoma disseminated? 7. Differentially diagnose chancre, chancroid and herpes progenitalis. 8. Give symptoms and treatment of fracture of the nasal bones. 9. Give symptoms and treatment of gunshot and stab wounds of the abdominal wall involving the intestines. Describe the suture you would use in closing wound of intestines. 10. What is empyema? Give etiology, pathology and symptoms. State usual results when not treated.

THEORY AND PRACTICE OF MEDICINE

1. Define scorbutus. (b) What lesions are always present in scorbutus? (c) Give etiology and treatment. 2. Name two varieties of icterus neonatorum. (b) Treatment of each variety. 3. Give etiology, symptoms and treatment of facial paralysis. 4. What is an aneurysm? (b) Give diagnosis of aneurysm of thoracic aorta. 5. How would you differentiate fever of pyemic origin from intermittent malarial fever? 6. How would you treat dermatitis combustionis? 7. How would you treat acute poliomyelitis? 8. How would you treat orchitis complicating parotitis? 9. Give etiology, symptoms and treatment of acute rhinitis. 10. Give causes and symptoms of ileo-colitis.

HYGIENE

1. Explain the meaning of predisposing and exciting causes of disease. 2. Name the most common (a) animal and (b) vegetable parasites which produce disease. 3. Define temperament, idiosyncrasy and diathesis. 4. What is meant by ventilation? Give the amount in centimeters of air taken into lungs in an adult with each regular respiration. 5. What is the best method and disposition for removal (a) of sewage, (b) of garbage? 6. Name the four essential alimentary principles in food. 7. What diseases are conveyed by milk? 8. Give the method of pasteurizing milk. 9. What hygienic precautions should be observed by a pregnant woman? 10. In a clinical analysis of water, if nitrites and nitrates are shown, should it be condemned for drinking purposes; if so, why?

Book Notices

Materia Medica: Pharmacology: Therapeutics: Prescription Writing for Students and Practitioners. By Walter A. Bastedo, Ph.G., M.D., Associate in Pharmacology at Columbia University. Cloth. Price, $3.50 net. Pp. 602, with illustrations, Philadelphia: W. B. Saunders Company, 1913.

The advance of pharmacology is so rapid that the so-called latest text-books frequently do not contain our latest knowledge in regard to the action of certain drugs. This fact gives an advantage to a new book on the subject seldom possessed by the older books, which, even when revised, are apt to retain statements of discarded views. The work by Bastedo has been well done and presents in moderate compass an up-to-date view of the subject of pharmacology so far as it influences modern therapeutics. The subject of digitalis is worked out with especial fulness. The book favors the rational use of a few remedies with a thorough knowledge of their action, which must characterize the simpler and more practical therapeutics of the future. The book closes with an excellent chapter on prescription writing in which enough of Latin grammar is given to insure correct form without burdening the student's memory with unnecessary technicalities. There are some good hints as to the calculation of dosage, etc.

While the work is thoroughly practical it recognizes the value of research, and some remedies are mentioned only to be condemned because their use is not justified by modern investigation. The hypophosphites are characterized as useless and the modern substitute, the glycerophosphates, present no satisfactory evidence that they increase the phosphorus in the nervous tissues. Lecithin is regarded as having scarcely any advantage over eggs and milk. The discussion of the more important articles, such as iron, iodids, alcohol, etc, is eminently satisfactory

We believe that the practitioner as well as the student will find this volume a very practical and reliable guide in the field of pharmacology

TREATMENT OF INTERNAL DISEASES FOR PHYSICIANS AND STUDENTS By Prof Norbert Ortner Edited with Additions by Nathaniel Bowditch Potter, M D, Assistant Professor of Clinical Medicine at Columbia University Translated by Frederic H Bartlett, M D, Instructor of Children's Diseases at Columbia University Second Edition Cloth Price $5 Pp 643 Philadelphia J B Lippincott 1913

A second English edition of the fifth German edition of Ortner's book seems necessary at this time, owing to the large number of changes in the last edition in German The chapter on children's diseases has been rewritten entirely by Professor Fronz of Vienna As an aid in the treatment of diseases, the book is a valuable one, and the names of the editor and translator of the English edition are sufficient guarantee of the care with which the work has been prepared In reviewing the first edition in 1908, we said "The number of synthetics recommended is larger than is desired and it is *to be feared that some preparations have found a place in* the book that may outlive their period of service in actual practice" Of great significance, therefore, is the following statement from the preface of the new edition: "The editor has endeavored to comply with the suggestions of the Council on Pharmacy and Chemistry of the American Medical Association and so has omitted those drugs recommended by the author which have not been sanctioned by this body" Such a spirit is commendable and encouraging

MODERN MEDICINE Its Theory and Practice in Original Contributions by American and Fore · Sir William Osler, Bart, M D F R S edicine in Oxford University, and Thomas · of Medicine in the Jefferson Medical College Philadelphia Volume I Bacterial Diseases, Diseases of Doubtful or Unknown Etiology, Non Bacterial Fungus Infections The Mycoses Second Edition Cloth Price $5 net Pp 1093, with illustrations Philadelphia Lea and Febiger, 1913

The popularity of the first edition of this important work is evidenced by the necessity of a new edition at the end of six years Still, the progress in medicine is so rapid that a text book needs revision at the end of such a period In the present case, the revision has been thorough and the present volume presents matured conclusions based on the most recent researches Certain topics were deemed of somewhat minor importance and liable to so little change that they have been omitted from the present edition, the reader being referred to the previous edition for their consideration The articles are written by specialists who have carefully revised the text, condensing in some parts, but giving special attention to diagnosis and treatment New sections have been written on a number of subjects It is promised that the succeeding volumes of the new edition will follow promptly It is hoped that the work thus revised will continue to fill its place as a standard in medical literature for the English speaking peoples

Medicolegal

Treatment of Compound Fractures of the Jaw—How Question of Charges Should be Considered

(Cozine vs Moore (Ia), 141 N W R 424)

The Supreme Court of Iowa reverses a judgment for $800 rendered for the plaintiff for alleged malpractice, saying that, on the record as made, it thinks the defendant was entitled to the directed verdict for which he moved on the ground that the evidence failed to show any negligence or breach of professional duty on his part The plaintiff had been thrown under the wheels of his loaded wagon His observable injuries were a wound on the back of the head, a "mashed" cheek bone, and two compound fractures of his left lower jaw The defendant a physician four or five miles distant, was sent for When he came, he found the plaintiff lying on the ground at the place of the accident He extended immediate temporary relief and removed the patient to his home In the treatment of the plaintiff the most difficult problem was presented by the compound fractures of the jaw The flesh wounds of the compound fractures were in the mouth, and more or less dirt had been forced into the mouth and into contact with the wounds by the circumstances of the accident The segment of the jaw between the two fractures had been drawn out of position by the contraction of the muscles and had been drawn upward One of the problems confronting the defendant was to restore such segment to its place and to secure it in its proper position In order to do that, sufficient force had to be applied in some way to overcome the tendency of the contracting muscles An instrumentality was constructed called an interdental splint The defendant called to his assistance an experienced dentist A wax impression was first made of the plaintiff's jaw and teeth That impression was used as a model for the construction of the interdental splint, which was made from rubber or gutta percha on the form of the wax impression It was so placed over the teeth of the patient as to hold the broken segment in place with a view thereby to bring the fractured ends in apposition and to accomplish a union thereof Provision was made for the cleansing of the patient's mouth several times daily The splint was kept in the mouth of the patient for a period of five weeks It was very uncomfortable It interfered with the closing of the plaintiff's mouth and with expectoration and with swallowing There was more or less infection present The plaintiff's breath became offensive In the course of five weeks he became sick with pleurisy Another operation was performed by another surgeon for the removal of pus from the pleural cavity The splint was removed at the expiration of five weeks A union had not occurred, or at least was not complete The patient's general condition was very grave and the chances of recovery were against him No further surgical attention was given to the jaw In time the union resulted, and at the time of the trial the place of fracture was not readily discoverable by the expert witnesses The alignment, however, was more or less imperfect

It was the contention of the plaintiff that the use of the interdental splint was unwarranted and clearly negligent on the part of the defendant, and that another surgical method, known to the profession, should have been adopted by the defendant, which consisted in drilling several holes in the jaw and in each end of the broken segment and drawing and holding the parts together with the use of a silver wire This method also had its perils In case of infection there was danger of necrosis of the bone It increased somewhat the danger of infection because it was impossible to wholly eliminate infecting bacteria from the mouth

Whether the defendant departed from the standards of his profession in his treatment of the plaintiff was a question which from its very nature must be determined in the main on the expert testimony of other physicians The court thinks that the testimony as a whole clearly fell short of a showing of negligence or want of skill in the defendant in the use of the interdental splint The most that could be said was that the witnesses, if in charge of the case, might have adopted a different course That would be a difference of judgment only Indeed, it could hardly be said from the testimony that the plaintiff's medical witness would have adopted a different course All experts agree that every difficult case presents a zone wherein the best method becomes largely a question of judgment of the attending surgeon under all the apparent circumstances of such particular case That the appliance was painful or inconvenient, and that infection resulted, and that the plaintiff's life was in great peril, were all matters incident to the natural results of the original injury The best of surgical treatment might not be able to avoid them The emphasis of the plaintiff's case was laid on these circumstances Of themselves they were clearly insufficient to prove negligence of the defendant

Some testimony was introduced by the plaintiff relating to the defendant's charges for his services The amount all told was over $1,500, and the defendant obtained from the plaintiff a promissory note for the greater part thereof It was also shown that the defendant sold the note. Complaint was made of this testimony as being irrelevant and immaterial and calculated to prejudice the jury The court fails to discover in the record any legal reason for the introduction of this testimony. In the absence of a showing of items entering into the sum total, it would impress the jury, as it impressed the court, as an extraordinarily large bill and could not fail to create a hostile feeling against the defendant. The amount of the verdict rendered was rather suggestive that the real intent of the jury was to reduce the defendant's bill to a reasonable extent, rather than to compensate the plaintiff for damages suffered as a result of negligence. If the defendant charged the plaintiff an exorbitant bill and improperly obtained his note therefor, a direct issue of that kind should be made and a recovery sought on such ground. An opportunity would thus be afforded to the defendant to justify his charges if he could. If there was an obstacle in the way of such suit by reason of a valid settlement, the same obstacle should bar the interjection of such question into this case. If the obstacle was surmountable, let the issue be directly made.

Rules as to Liability for Services Rendered on Request of Parents and Other Third Persons

(McGuire vs Hughes (N Y), 101 N E R 460)

The Court of Appeals of New York affirms a judgment of the Appellate Division affirming a judgment of the Apellate Term of the Supreme Court affirming a judgment entered in favor of the defendant, dismissing the complaint in this action, brought to recover the reasonable value of services rendered by the plaintiff as a physician, at the request of the defendant, to the latter's daughter, a married woman living with her husband. The court says that the only question on this appeal was whether the defendant came under any obligation to the plaintiff. That turned on whether the law *would imply a promise on her part to compensate him.* If the court might assume the existence of a moral obligation, that would not determine that a legal, or enforceable, obligation existed.

The rule in the United States has generally been that a physician is entitled to recover for his services, if not under an express contract therefor, then under an implied agreement to pay as much as they are reasonably worth, differing in earlier times, from the rule at common law, which, in England before the passage of the medical act of 1858, in the absence of a special agreement, denied to the physician the right to sue for his professional services, the theory of any payment to him being that of an honorarium.

It should be taken as the rule of law, too well settled on authority to be now questioned, that a physician, in the absence of a special contract, may recover on an implied agreement to pay for his services their reasonable value, when they have been rendered at the request of the patient, or of a person who, in the eye of the law, is regarded as being under a legal obligation to provide such professional services for the patient; such as a husband, or the parent of a minor child.

But the general rule that, when a person requests of another the performance of services, which are performed, the law implies a promise by the former to pay their reasonable value, has no application in the case of a physician, rendering *professional services to a third person,* if the relation to the patient of the person, who requests them, be not such as imports the legal obligation to provide them.

In the present case, notwithstanding the anxiety, the importunity, and the prayers of the defendant, how was the legal obligation of the patient's husband shifted to, or assumed by, the defendant? According to the plaintiff's testimony, he refused to attend the patient until the husband had consented; which may be said to be a recognition, at least, of the marital relation, with its consequent responsibility, or liability. It certainly followed that, when the husband's consent was given an obligation arose on his part to pay the reasonable value of the services which the plaintiff might render As there was no express promise by the defendant to pay, the court cannot hold, on the facts disclosed by the plaintiff's evidence, that there was also an implied promise on her part.

It would be a simple matter, in cases in which the physician is called on to attend a person, at the instance of some one not standing in a responsible relation to the patient, to inform himself as to whom he shall look for his compensation.

Insufficient Complaint and Evidence in Malpractice Case—Treating for Blood-Poisoning Case Later Diagnosed as Osteomyelitis

(Osborn vs Carey (Idaho), 132 Pac. R. 967)

The Supreme Court of Idaho reverses a judgment giving the plaintiff $4,000 damages for alleged malpractice, and grants the defendant a new trial. The court says that the plaintiff was a boy about 12 years old. It was alleged in the complaint that on or about Nov. 14, 1911, he was afflicted with a disease of his right leg, for which the defendant was called to treat him, and that the defendant carelessly failed to make a proper examination of him, such as a physician of ordinary skill would have done, and pronounced the disease to be blood poisoning, when in fact it was a disease of the leg "at the right tibia," which disease and ailment has well-known and peculiar signs and symptoms which an ordinary physician would detect, and that the defendant continued negligently and unskilfully to treat him for blood poisoning until about March 10, 1912. This allegation was too uncertain in that it did not appear from the complaint what was the name or nature of the alleged disease, or what were the signs or symptoms of the disease, which it was alleged were well known and peculiar.

In this class of cases, in order to enable counsel properly to prepare a case for trial, it is usually necessary for them to make considerable study of the ailment or disease with which it is claimed a plaintiff was suffering, in order that they may properly defend their client. The danger to the defendant in such a case on a general allegation of a disease claimed to be a "well-known disease," without naming it or giving its signs and symptoms, is certainly increased in a malpractice action over the ordinary action, and it would seem only fair to the defendant that the plaintiff should be required to name the disease with which he was afflicted. The defendant could not know prior to the trial for a certainty with just what disease the plaintiff would claim he was afflicted. Had he known, he might have made a better defense.

The complaint was also uncertain in that it could not be determined from its allegations whether the plaintiff claimed negligence in the treatment of a disease correctly diagnosed, or whether he relied on the fact that it was the wrong treatment for osteomyelitis. The defendant ought to have been advised by the allegations of the complaint in regard to that matter. If the court should assume that the exact charge of negligence as to the treatment related only to the mistake of the disease, and that the defendant had wrongfully diagnosed it as "blood-poisoning," and treated the ailment on the wrong theory as to the nature of the disease, the defendant would not necessarily be liable, even though as to the nature of the disease, the defendant would not necessarily be liable, even though the treatment did not produce good results, for it must appear from the allegations of the complaint that the treatment was not proper from the standpoint of the consensus of opinion among physicians and surgeons of ordinary skill and learning in the profession in the locality wherein the defendant practiced. In other words, even though the ailment were osteomyelitis, even though the defendant treated it as blood-poisoning, still the nature of the disease might be such that in the opinion of physicians they should be treated alike, and, if such were so, the defendant would not be liable for using such treatment, even though it did not produce good results.

In this class of cases the allegations of the complaint ought to be sufficiently specific to inform the defendant of the facts that he must meet by his defense, and the complaint ought to allege specifically the things concerning which the negligence is charged and the name of the disease with which the plaintiff was afflicted, and that was so here, since it was alleged that it was a "well-known" disease It was alleged in effect in the complaint that the defendant, on account of carelessness and negligence, failed to discover the true disease with which the plaintiff was afflicted, and it certainly was only fair to the defendant, if the disease was well known and had a name, that the name of the disease be alleged

Again, it was incumbent on the plaintiff to produce competent evidence on the trial to warrant the jury in finding that he really had osteomyelitis at the time he was treated by the defendant There was evidence in the record to show that he had osteomyelitis thirty days after the defendant's last visit, but it was contended there was no evidence in the record to show that during the time the defendant treated the plaintiff he was afflicted with such disease The existence of the disease on March 12 would not prove of itself its existence thirty days prior thereto, and the expert witnesses based their testimony of the existence of the disease at the time the plaintiff was being treated by the defendant on a 'history of the case," which was not put in evidence It was contended by counsel for the plaintiff that this objection was one which went to the competency of the evidence, and that question should have been raised in the court below by appropriate objection to the evidence, when the missing facts and circumstances, if they were material, could have been supplied The objection, however, went to the weight of the evidence and as to its value as proof, and not to its incompetency If a case depends on the opinion of the expert, and the truth of the opinion depends on the existence of certain facts and such facts are not shown, the opinion can have no value or weight as proof

In order to recover in this case the plaintiff must establish the existence of osteomyelitis during the time he was under the care and treatment of the defendant, the amount of damages sustained, as well as other facts There was not sufficient evidence to show that the defendant carelessly and negligently treated said disease or that the disease with which the plaintiff was afflicted at the time he was treated by the defendant was not blood poisoning or septicemia

Society Proceedings

NEW YORK NEUROLOGICAL SOCIETY, AND SECTION ON NEUROLOGY AND PSYCHIATRY OF THE NEW YORK ACADEMY OF MEDICINE

Joint Meeting, held Nov 11, 1913

Dr Smith Ely Jelliffe and Dr I Strauss Presided

The Irregular Bony Formations of the Sella Turcica in Some Epileptics

Dr L Pierce Clark and Dr E W Caldwell Cranial asymmetries and osseous deformities in epileptics have long been the subject of intensive study by many able investigators Some young epileptics present a markedly thickened skull, but usually the thickness is increased after the twenty fifth year and becomes very marked after the fortieth year The calvarium of the epileptic is heavier than that of the normal person of the same age Dr G C Johnston of Pittsburgh, Pa, was the first to study these cases roentgenographically Three types of the pathologically deformed and enlarged sella have been distinguished and classified by Cushing One is associated with thickening of the clinoid processes and dorsum ephippii Here the enlargement is accompanied by thickening of the walls, but Cushing stated that this type was confined to the acromegalics and gigantics, he believed that the bony thickenings were merely a feature of the osseous tendency to overgrowth, which of course, threw no light on the condition shown in some epileptics

The circulatory disorders in epilepsy shown frequently in slow pulse, vasomotor stasis in the extremities, and an invariably low blood pressure when arteriosclerosis was not advanced, the tendency to obesity and a ravenous appetite might make one pause before excluding the possibility that there may be some association between epilepsy and a marked disturbance of the pituitary body, and that it might ultimately be found that pituitary disease may sometimes have more or less bearing on some types of epilepsy in some of its broader and more general manifestations

Little or no reference has been made to this condition of irregular bony formations of the sella turcica by those who have made a special study of the cranium, and its significance could only be conjectured Dr Johnston of Pittsburgh was the first to suggest that it might have some bearing on epilepsy

Newer Researches Concerning the Hypophysis

Dr Frederick Tilney The ontogenesis of the hypophysis demonstrates the necessity of revising the nomenclature applied to it, inasmuch as certain neural and glandular elements have not hitherto been recognized The study of the development in a number of vertebrate forms is the basis for the following classification of the several parts of the organ

1 The pars neuralis, consisting of (*a*) the eminentia saccularis of the tuber cinereum, (*b*) the infundibulum, (*c*) the infundibular process 2 The pars glandularis (epithelial), consisting of (*a*) the pars tuberalis (hitherto undescribed), (*b*) the pars infundibularis, (*c*) the pars distalis

Some Causes of Disappointment in Operations on Brain Tumor

Dr William G Spiller, Philadelphia Bruns said that about thirty out of 100 brain tumors were so situated that a radical operation might be advised, the localization was accurate, and the tumor in these cases was accessible He believed that we might expect surgical success in from 3 to 4 per cent of all brain tumors Tooth studied the records of 500 cases of brain tumor at the National Hospital obtained during the years 1902 to 1911, inclusive Of these, about half came to operation He thought that a high mortality was inevitable, but that it could be reduced by a judicial choice of cases and by selection of the operation best suited for individual cases The immediate dangers common to all growths, all situations and apparently all operations, were shock, collapse and respiratory and cardiac failure

Many causes of disappointment occur to any one familiar *with operations for brain tumor* The best known are incorrect diagnosis the infiltrating character, large size and inaccessible situation of the tumor, errors in technic and impaired general vitality Increase of intracranial pressure is the cause of many of the general symptoms occurring with brain tumor It is attributed directly to the tumor and varies with the size of the growth There is a condition resulting from tumor to which little attention has been paid, and which is as important, if not more so, than the size of the tumor itself namely, enlargement of the brain This hyperplasia is not directly proportional to the size of the tumor it might be moderate with a large tumor or sufficient to cause much enlargement of one cerebral hemisphere when the tumor is small The hyperplasia might be the result of irritation either from pressure or possibly from some substance elaborated by the tumor, and is caused by an overgrowth of neuroglia tissue This hyperplasia of the brain might occur with any variety of tumor It should not be confused with enlargement from glioma tissue, nor should it be confused with the acute brain swelling of Reichardt The sudden fatal termination that occurs in some cases of tumor is probably the result of this enlargement of the brain, and of interference, by the general increase of intracranial pressure, with the important functions of the medulla oblongata It might also be that hyperplasia of the brain is an important cause of impairment of mentality in some cases of brain tumor

DISCUSSION

Dr M Allen Starr I have seen a number of cases of brain tumor associated with a distinct hypertrophy of the corresponding hemisphere, but have never ascribed to this condition the explanation offered by Dr Spiller The form of hypertrophy that follows operation in some cases and fails to occur in others has often puzzled me. I could not understand why in some cases after an operation for brain tumor there should develop an enormous hernia cerebri, while in other cases it was entirely absent, and I did not believe that it was always an evidence of sepsis. The distortion of certain parts of the brain resulting from tumor is a well-recognized fact, and by causing pressure on or stretching the cranial nerves it might give rise to secondary symptoms and obscure the diagnosis.

A review of my last fifty cases of brain tumor showed that the diagnosis as to the location of the growth was possible in thirty; in the remaining twenty, its location could not be determined definitely. In twenty of the fifty cases an operation was urged, and in eighteen of these it was performed. In eleven of the eighteen the operation confirmed the diagnosis, and the tumor was removed; in two the tumor was found, but could not be removed on account of difficulties encountered in connection with the operation; in five nothing was found. The death-rate was 6 per cent

Dr. B. Sachs: Doubtless many have observed this hyperplastic enlargement of the hemisphere accompanying brain tumor, but gave no heed to it. At the recent International Medical Congress in London, Sir Victor Horsley made the statement that unless the diagnosis was made before the appearance of optic neuritis, which was generally regarded as such an important feature of the condition, it was almost too late to do the patient any good. This is rather an extreme view. In the recognition of this condition it is not an easy matter to forego the advantages that go with the presence of a pronounced optic neuritis. I can recall a number of instances in which the diagnosis, without the eye symptoms, would have been practically impossible. In a case that was recently under my observation there was no optic neuritis, but there was evidence of tumor involvement of the fifth nerve. In addition to this, there were marked cerebral symptoms and an operation was contemplated, but after three weeks' observation in the hospital and under simple hygienic treatment all the symptoms gradually disappeared, with the exception of the fifth nerve involvement, and the patient has been temporarily discharged. I still believe that we had to deal with a brain neoplasm, but the patient was so much better that the idea of an operation has been abandoned for the present, at least.

The high mortality accompanying operation for brain neoplasms might perhaps be lessened to some degree by a more careful manipulation of the brain. This and the rapid checking of hemorrhage are important factors in the reduction of the death rate after these operations.

Dr. Robert Abbe: I have practically come to the conclusion that decompression is the operation of choice, on account both of its comparative simplicity and the benefits that accrue from it. I recall several instances in which this procedure was followed by great prolongation of life, together with improvement in the eye symptoms. In one case in which no tumor was found, although that diagnosis had been made and was well founded, the patient survived a decompression operation for four or five years and has resumed work. In another case in which the sight had been entirely lost the decompression resulted in restoration to health, and the patient was alive three years after the operation, when she was lost sight of.

Dr. J. Ramsay Hunt: I am familiar with the enlargement of the convolutions and parts of the hemisphere in the neighborhood of brain tumors, and I have always regarded it as the result of stasis due to an interference with the circulation, near the growth, of the blood- and lymph-streams. A similar condition was observed in abscess formation of acute onset, and under those circumstances the term "hyperplasia" was certainly scarcely applicable. I should be inclined to attribute this swelling and enlargement to a chronic stasis and edema, and not to a true hypertrophy or hyperplasia of brain tissue. It is not surprising that in old cases, as a result of pressure and stasis, there should be some changes in the appearance and relation of the histologic elements; but in my experience there has been nothing in the microscopic picture of the swollen region that would have suggested the occurrence of hypertrophy and hyperplasia.

Dr. Charles A. Elsberg: I have noticed this asymmetry between the size of the two lobes in cases of brain neoplasm, and have ascribed it to an increase of the fluid content on the affected side. I do not understand whether or not Dr Spiller attributes the occurrence of hernia cerebri to this hyperplasia. In many cases of hernia cerebri, the protrusion could be reduced by elevation of the patient's head or by lumbar puncture or by aspiration of the ventricles or the corpus callosum, or by a combination of these methods. The degree of pressure varied. At times a large, tense hernia occurred without apparent explanation, while at other times the protrusion was almost collapsed, and if it was attributable to this condition of hyperplasia, it would be difficult to understand these marked differences in the pressure.

Within the past few years I have seen two cases of tumor in the left frontal region, both located in the cortex and of the endothelial type, in which the wrong side of the brain was exposed. In both of these cases there was no increase in pressure; on the contrary, there was a diminution to such a degree that it led to a subsequent opening of the skull on the opposite side, where the tumor was really located

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AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Fourth Annual Meeting, held in Washington, D. C., Nov. 14-17, 1913

The President, Dr. L. Emmett Holt, New York, in the Chair.

Infant Mortality—Past and Present

Dr. L. Emmett Holt, New York: Infant mortality is one of the great social and economic problems of our day. No resources of the state need so much to be conserved as its children. On the physical, intellectual and moral strength of the children of to-day the future of the country depends. In all training and education physical considerations must come first. Unless the infants are saved there will be no children to educate. The early attitude of the state and of the family toward the child was purely utilitarian; it aimed to provide for the survival of the child whose life might be advantageous to the state, and to eliminate all others. Thus the exposure to death of the feeble and the deformed was done without any hesitation or compunction. There are those to-day who believe that the high infant mortality tends to improve the race by eliminating the unfit in a process of natural selection. This assumes that those who are feeble and delicate in infancy are to be classed among the unfit. In the majority of cases this is not true. In a high infant mortality it is the unfortunate and not the unfit that are eliminated. General interest in saving the lives of infants is only fifty years old, and it has been active and efficient for barely twenty years.

Most of the modern agencies employed for the reduction of infant mortality have arisen in France. The first was the crèche or day nursery established in 1844. This was followed by societies for the protection of infancy and the promotion of maternal nursing, and finally the introduction in 1892 of the infant consultation and the milk-depot. These are places at which the mother of the young infant reports regularly to have her child weighed and examined and where she is given advice regarding its care. The infant consultation and milk-depot, having been adopted all over the world, are probably the most important agents yet devised for reaching the ignorant mother and aiding her in saving her child. In Germany at present attendance at these consultations is encouraged by a payment of a bonus of from 1 to 4 marks weekly to increase the family income sufficiently to enable the mother to nurse her child. In France also similar payments are made.

Since 1900 a world-wide campaign for the reduction of infant mortality has been in operation. Its results are shown nowhere better than in New York City, where the problem presents peculiar difficulties owing to the heterogeneous character of the population, the dense overcrowding, equaled nowhere else in the world, and the hot summer climate. What has been accomplished may be seen by the following figures: In 1890, in New York City, the death-rate was 28.8 per cent. of living infants; in 1908 it was 13.8 per cent.; in 1912 only a little over 10 per cent.

Simple Milk-Dilution Feeding

Dr. Herman Schwarz, New York: I wish to make a plea for the use of ordinary milk, water and sugar feeding. I believe in top milks in some cases, but I should like to emphasize the fact that it is only fair to the mother and in many cases to the child to try first the ordinary milk dilutions with the addition of sugar calorically sufficient. In institutional and clinical cases it is important not to make the feeding of infants a terrifically difficult problem with the use of a great deal of mathematics and apparatus. The addition of lime-water and of barley, unless indicated, and the use of other sugars beside the ordinary granulated or milk-sugar are also to be deprecated. The indiscriminate use of the malted sugars and infant foods is in many instances unnecessary, adding to the trouble of making the food, to the expense and to the time consumed in preparing it. In other words, unless there is some indication one should try the ordinary dilutions of milk, water and sugar in the greater percentage of our institutional patients. I can report the results of the use of such simple dilutions for 3,600 children, followed up for the period of a year. Many of these children are breast-fed until the eighth, ninth or tenth month; some have had to have milk mixtures added to or replaced entirely, at a much earlier period. When the addition of cow's milk is indicated the ordinary dilution of milk, boiled water and granulated sugar was almost always used. Of 1,182 infants thus fed and observed for a year, the average weight at the end of the year was 19 pounds and 14 ounces. The greater number of infants (approximately 75 per cent.) were over 18 pounds, and this in a material whose care could not be controlled absolutely and whose resistance to diseases was so lowered that a great many illnesses kept the weight back. Most of these babies received additional nourishment in the milk mixtures before the ninth month.

DISCUSSION

Dr. Godfrey R. Pisek, New York: This paper indicates the tendency toward simplicity, but Dr. Schwarz has not emphasized one feature which makes the simplified dilution of water, milk and sugar successful to-day. If ten or fifteen years ago we had tried simple milk-and-water dilution we would not have had the good results we have to-day because we have good milk now in the majority of cases. We had good results with our top-milk mixtures because doctors insisted on good milk in order to secure the top milk. To-day we obtain good results with whole milk because it is bottled milk. In the milk stations of New York City one year we tried pasteurized milk at some stations and raw milk at others. At the end of the year there was not much difference. The milk was handled under the direction of the nurses in the homes. The next year a good raw milk was again used, and these simple modifications were efficacious and we had good results. Simple dilutions will answer the purpose of the normal child; but in special cases we must adapt the modifications to the child.

Dr. L. Emmett Holt, New York: The difficulty is to keep people reporting regularly, and attending to the dilutions of milk according to the growth and needs of the child.

Dr. Julius Levy, Newark, N. J.: This paper is of immense social value because the average mother can be taught this system of feeding at home. This saves an immense amount of work on the part of the doctors, the nurses and the philanthropists; but best of all, it puts into the home the educational value of teaching the mother how to handle the milk. An association does an immense amount of work if it spreads the propaganda of simple milk modification among the doctors as well as among the mothers. The idea of feeding a child scientifically has been associated with a very elaborate knowledge of calories and percentages. If we can let every one know that simple milk modification will meet the average case, we shall have accomplished a great end.

Dr. H. F. Helmholz, Chicago: A great deal can be accomplished by the use of simple methods, if they are used rightly. Dr. Holt advocated simple methods from the very beginning; but simple methods may not help out if we have an infant that has had all sorts of mixtures fed to it before it came into our care. In our work in cities where thousands of babies have to be fed, we must have some simple procedure that can be taught the mother, and the simpler the procedure, the greater the chance of success.

Teaching of Hygiene and Its Relation to the Prevention of Infant Mortality

Dr. I. A. Abt, Chicago: How can the medical profession yield more efficient service in the prevention of infant mortality? Are our undergraduate and postgraduate medical schools contributing their share in instructing students in infant hygiene? Are infant hospitals, medical societies and other institutions of instruction and learning contributing their share in the propaganda of prevention? It has seemed to me at times that our energy in this campaign of prevention has been somewhat misdirected. I cannot fail to recognize the far-reaching effects on the reduction of infant mortality from the infant-welfare stations and the efficient service rendered by physicians and nurses in educating mothers and saving infant life. Nor would I discredit the campaign of education which has extended into many homes and brought light and relief into many dark places. In some medical schools, students learn what little they know about the hygiene of infants from the teacher of obstetrics; in a few schools the subject is taught by the department of pediatrics. In most schools the subject is taught indifferently, if at all. Infant hygiene should be taught in the department of pediatrics, should be given by one who is not a mere tyro in the department of children's diseases. The instruction should be based on physiologic knowledge, also utilizing such facts in clinical pediatrics, bacteriology and pathology as pertain to the hygiene of infancy.

The course in infant hygiene should consider the care of the infant during the first days of life, and the necessity for external warmth. The prevention of infection in the new-born is a theme worthy of careful study. The technic of the bath, its temperature, the warmth of the room and all other facts concerning its application are as important from the physician's point of view as from that of midwife, nurse or mother. The treatment of the cord, the umbilical wound, the clothing, should be considered in detail because they are matters of vital importance, simple when understood, serious or frequently fatal when misunderstood. The hygiene of food and feeding, the physiology of foods, the advantages of breast-feeding are all considered in the larger text-books on pediatrics and are easily accessible to every student. Air and exercise, the bathing of older children, the training of children, prevention of infections, and countless subjects and questions will come up for consideration, and should be treated in the greatest detail, because, after all, if medical schools are educating men for general practice, these various problems in infant hygiene which require daily application among normal and sick children are of the most far-reaching importance. Adequate training of young physicians in infant hygiene would be one of the most powerful forces in combating infant disease and mortality. The children's hospital should be a Mecca to which practitioners should pilgrimage. Popular lectures should be delivered at these hospitals as well as at undergraduate and postgraduate schools. Addresses should be delivered by competent physicians before district and county medical societies, so that the general practitioner of medicine might come into possession of the latest and most accepted methods of pediatric practice and particularly those facts which pertain to the hygiene and prevention of disease among infants.

DISCUSSION

Dr. J. H. Mason Knox, Jr., Baltimore: Most of us who are engaged in milk-station work and in seeing many children of the working classes, realize that a large part of our work is made necessarily simple because of the absence of the things which Dr. Abt has advocated. Some of us look on this crusade as pointing to the time when this knowledge of the hygiene of infancy will be more general. This knowledge of the elements of infant hygiene should be a part of all teaching of older girls in high schools and colleges. It is a legitimate part of every course of normal education, and until it is made so, we must continue in the present unsatisfactory way, through propaganda by societies like this one, and by means of the very discouraging attempts on the part of doctors and nurses to tell mothers who are beyond the age when learning comes easily, what mistakes they have already made in the care and feeding of their children.

Dr. Helen C. Putnam, Providence, R. I.: The graduates from high schools and colleges are only a small fraction of all the girls in the country. This society stands consistently and strongly for educating in continuation schools the great mass of girls who have no education at all during adolescence. One of the greatest things we can do in this society toward the prevention of infant mortality is to have these continuation schools—voluntary or compulsory—establish in every city in the country classes for teaching girls who are past the elementary school education how to take care of their children.

Dr. S. Josephine Baker, New York: This work is being done largely throughout the country by health boards, or through private organizations where the public authorities have not taken it up systematically. In New York we have our "Little Mothers' League," of girls from 12 to 14 who are taught these elements of baby care by lectures. Last year we had 17,000 girls in our league, and the attendance is entirely voluntary. The boards of education should take this up as a part of the public school course, and I believe as people interested in the welfare of infants we should make it our business to conduct a campaign of education among the educators themselves. We can do nothing more important for the women of the future than to teach them how to keep alive and well the children they will bring into the world.

Miss Harriet L. Leete, Cleveland: Our girls are being taught by the school nurses in Cleveland. This work has been taken up by the Babies' Dispensary after school hours. Children like it very much. This year it will come under the direction of the Board of Education.

(To be continued)

ENGLEWOOD BRANCH OF THE CHICAGO MEDICAL SOCIETY

Regular Meeting, held Dec. 2, 1913

The President, Dr. J. H. Hess, in the Chair

Headaches

Dr. Robert B. Preble: Headache is an extremely common symptom, occurring in practically every pathologic condition, yet there is no uniformity of opinion or actual knowledge as to where the pain is experienced. The dura is certainly devoid of sensory nerves, so that it can be cut without exciting pain. As we approach the base of the skull, however, the dura becomes progressively more and more supplied with nerves, mostly derived from the fifth cranial nerve. The pia and arachnoid are almost devoid of nerves, except the sympathetic. The brain tissue itself seems to be quite insensitive to pain. Whereabouts in these structures one feels pain, we do not know, but the presumption is that the pain is experienced in the dura, and rarely arises in the sensory branches from the fifth cranial nerve.

Many attempts have been made to classify headaches, but none has been satisfactory. We can think of a variety of pathologic conditions in which a mechanical explanation seems necessary, for example, the headache due to increased intravenous pressure. The nerve fibers are directly irritated by the pressure. There are certain chemical bodies which will precipitate headache very easily, such as nitroglycerin, and here again is an instance of increase in the intracranial pressure, dilatation of the vessels and irritation of the nerves. That idea is, in part, correct, as shown by clinical observation, but a much larger dose of nitroglycerin is required to produce a headache in a person whose vessels are thickened or sclerotic than in one whose vessels are responsive. It may be that the nitroglycerin irritates these nerves directly, but this classification is not satisfactory because it does not explain why the action is selective and does not give rise to pain anywhere else, and why this nerve is selected.

The classification I shall use is that of Auerbach, who divides headaches into a first group which he calls essential headaches, a second in which the headache is the result of diseases within the cranial cavity, and a third group in which the headache occurs in all sorts of conditions, remote from the skull.

The tendency is always to look on headaches in a superficial sort of way, and this is a serious mistake. Even though it is true that the great bulk do not amount to anything, nevertheless, every case of headache must be regarded as a problem of importance until it is certain that the headache is not the beginning of some serious illness. The history and the physical examination should be gone into with great care.

Among the cases of essential headache are those curious clinical pictures which we call migraine, thought by many to be the most common type of headache. In spite of the characteristic picture which many of these cases of migraine present, and in spite of the temptation which is so strong to dismiss them as mere migraine, one should not be too ready to do so, and particularly to dismiss as a case of migraine one which, no matter how typical the description, does not give a definite and clean cut history of heredity. A person may develop a migraine without a family history, but the number of such instances is very small. Furthermore one should not be too ready to accept a diagnosis of migraine which comes on late in life. Migraine almost invariably begins relatively early in life. So when a person comes with the complaint of migraine beginning at 40 or 50, one should be particularly careful in the examination. While such a conditon is possible, it is exceptional.

Another form of headache for which there is no satisfactory explanation is the headache of the neurotic person. When any normal person becomes tired out, overworked—particularly mentally—or is under a strain of any sort, headache is apt to develop, and a night's rest cures it. In neurasthenics headache becomes a common and troublesome phenomenon, and may be the only one of which the patient complains; but, in these cases, if the patient is intelligent, he will tell you that the headache is not comparable to what everybody understands by the term 'headache." The sensation is different. It may be painful—even excruciatingly so—but these patients will usually say that the headache is different from that caused by an acute intoxication of any sort. It is often described as an uncomfortable sensation between the scalp and the skull. There are sometimes localized areas of pain, pain which comes on under certain circumstances, and so on. Those people are usually readily recognized by any experienced practitioner as neurasthenics, but the same rule holds here, as always with neurasthenics: no matter how obviously they may be neurasthenics, the neurasthenia should not be accepted as an explanation of any given phenomenon until every possible organic explanation has been excluded, it is so easy for us to do the neurasthenic an injustice.

Another form of headache included in this group of essential headaches is the type, which I myself have never seen, called by the Germans indurative headaches—rheumatic headaches, conditions associated with nodules along the attachment of the muscles to the skull, and sometimes running down the muscles into the neck. Some of the German authorities say that this is the most common type of headache which is not due to any remote cause.

Then come the headaches which we associate in our minds with intracranial processes, with diseases of the meninges and diseases of the brain itself, particularly neoplasms of the brain. It is by no means universal for headache to develop in cases of this sort. I remember a patient who was convalescent from a pneumonia, and was to be discharged from the hospital in the afternoon of the day when he suddenly became unconscious and died in the course of a few hours. Necropsy showed that he had a most extensive purulent meningitis of the vertex, and yet it had caused no symptoms to attract attention He could not have suffered any particular headache, because he had gone about uncomplaining So it is quite possible for one to have extensive exudate processes in the brain which do not give rise to any symptoms

Brain tumor can reach a very considerable degree of size without giving rise to pain Whenever headache comes on with relative acuteness it should excite suspicion of the possibility of brain tumor, particularly if it is accompanied by the peculiar vomiting which is seen so often with brain tumor, a vomiting unassociated with nausea This is not always true, but nearly always the case

Of the affections of the meninges which give rise to headache, the most common one is meningitis Usually the diagnosis is not difficult—by lumbar puncture Then, there are the various infections, any one of which may present itself as a headache, although, as a matter of fact, there are not many in which the headache is a particularly prominent phenomenon In typhoid it is often the most striking feature, all the other *phenomena being entirely submerged in the headache,* which is so intense and prolonged that it is with difficulty that one can be convinced that it is not a graver process This extremely severe headache may be localized anywhere—it may be frontal, occipital or generalized If, in addition to the headache, one has some evidence of meningeal irritation, retraction of the head, a Kernig, possibly a little papillitis, the temptation is strong to make a diagnosis of meningitis, even though the typhoid is recognized A combination of the two occurs sometimes, but not often If a complicating meningitis is suspected, a lumbar puncture is easily made The only other common infection prone to give rise to intense headache is influenza In pneumonia the headache is rarely a complaint of moment, which is also true of the other common ordinary infections

In syphilis the headache is by no means an uncommon phenomenon, and in cases in which the syphilis does not manifest itself clearly it may be a source of great confusion The headache of syphilis is worse at night than in the daytime A Wassermann should be made, this will soon clear up the diagnosis

The question of the relation of malaria to headache in this part of the country does not often arise because of the infrequency with which we encounter malarial affections, but in regions where malaria is common that question frequently comes up Our diagnostic resources are such as to enable us to clear up the diagnosis, although the periodicity which is often noted in malarial headache will carry with it the suspicion of malarial cause

There is another form of headache, that which comes with nephritis, particularly in its slowly developing, insidious, diffuse or interstitial form Headache will be the first phenomenon that attracts the attention of the patient Always when a person in the latter portion of life complains of headache recurring, and that person in earlier years was free from such headaches, the possibility of nephritis should automatically occur If thorough examination is made the nephritis will not be overlooked In addition to the forms of headache referred to, there are also many cases in which the explanation can be worked out by careful study and elimination

Relation of the Nose and Accessory Sinuses to Headaches

Dr G Henry Mundt Severe pain in the *forehead,* particularly if it be unilateral, should arouse suspicion of an acute affection of the frontal or ethmoid sinus Pain in the upper jaw, especially if there be tenderness on pressure, should cause one to look for an acute antrum Headaches of nasal origin are peculiar The nose is ordinarily the last place to look for the cause of a headache Lack of ventilation in the nose and sinuses is accountable for more headaches than lack of drainage The latter causes pain in acute suppuration, but is of less importance in chronic conditions The pain is not always in the region of the sinus involved Chronic headaches for which everything has been tried without affording relief are usually nasal headaches

Grunwald gives the following conditions as causing headache (1) increase of mucosa, with irritation of the nerves, (2) direct contact of swollen mucosa, (3) negative pressure in the sinuses, (4) stasis following operation of the drainage passages, (5) ulceration of the mucosa with involvement of the nerves, (6) reabsorption of toxins from within the sinus, (7) any condition which causes acute congestion of the cranial circulation, and (8) disturbances of the blood and lymph circulation at the base of the skull In my experience, direct contact with a swollen mucosa has been a very frequent cause of headache I have found the middle and *occasionally* the inferior turbinal in contact with the septum Negative pressure in the sinuses has been the cause of many headaches The sinus is normally filled with air In these cases it is sealed, usually because the patient goes into a hot, stuffy room, which causes the mucous membrane at the opening of the sinus to swell Some of the air in the sinus is absorbed by the blood circulating there, and there is congestion in the mucous lining of the septum, causing a dull, heavy ache This variety of headache has been appropriately called vacuum headache I have found it more amenable to non surgical treatment that any other

Ulceration of the mucosa with involvement of the nerves is the principal cause of the headache which we find associated with atrophic rhinitis, but reabsorption of toxins from within the sinus is probably partially responsible More or less headache is always associated with chronic sinus disease Its severity may bear no relation to the severity of the nasal lesion, very severe pain often being found with minor nasal changes, and vice versa Nasal headaches are not constant as to severity They are usually intensified by stopping, jarring, prolonged mental work and loss of sleep The location of pain associated with sinus disease is by no means constant, but the patient will usually have the pain in the same region There is a typical headache associated with each sinus

The differential diagnosis between nasal and ocular headaches can usually be made by external observation In sinus disease the headache is usually unilateral, while ocular headaches are nearly always bilateral

Discussion on Headache

Dr Archibald Church We are in doubt as to the mechanism and the physiology which eventuates in a headache I am convinced that a large number of headaches—not all—are due to pressure on the dura, and that the pain is in the dura In some patients I have had the opportunity of manipulating the dura with the patient conscious and have applied electrodes over the dura and through the dura and have stimulated the cortex centers without producing the slightest discomfort at the point of irritation, but producing all the major phenomena that would be obtained by the simple application of the electrodes to the uncovered cortex In one instance in which the dura had been opened for the exploration of the cortex, the patient being conscious, I found that I could cut the dura with a pair of scissors, with only the slightest discomfort to the patient It could be transfixed or cut with a sharp knife without producing any pain, but if I seized it with hemostatic forceps, producing pressure, some discomfort was produced

It would seem that the dura reacts something like the bowel, that pressure conditions produce discomfort and perhaps pain Therefore in all probability in cases of brain tumor the actual pressure of the growth in the cranial cavity produces the headache seen in these cases, which is relieved by decompressive operations or spinal puncture Many patients complain bitterly of pain after lumbar puncture, which is probably due to the fact that after the needle is withdrawn there is a leaking of the fluid through the opening left by the needle So I would strongly advise the use of a very fine needle, preferably a very thin iridium platinum needle

The peculiar condition of so called indurative headache is worth some consideration Ettinger recently insisted that 60 per cent of the chronic headaches are due to indurative conditions in the aponeurosis of the muscles that actuate the scalp, the occipitofrontalis particularly I share Dr Preble's experience in not being able to detect these cases, but I have found that in a proportion of these patients past middle life, the condition is associated with rheumatoid processes or gouty conditions

Another type of headaches which seems to be becoming more frequent is those associated with high arterial tension, in which there is no evidence of kidney lesion merely a low specific gravity of the urine, headache experienced on waking, continuing through the day and subsiding at sunset This condition I have found to be amenable to those measures which reduce arterial tension

The cases of nasal headaches with which I have come in contact, especially in association with sinus diseases, have usually been unilateral and have presented a headache with which the patient rises in the morning which tends to subside at 10 or 11 in the morning As to the periodicity of headache I, of course, bear in mind the tendency of syphilis to produce a nocturnal headache, but I have frequently seen syphilitic headaches which occurred in the morning Malarial headaches commonly occur before midday, but this may be broken up by a few doses of quinin, and the headache will come after the noon hour I have never seen a case of headache which was distinctly of a reflex character from eye conditions that was not provoked by the use of the eyes under certain conditions At present we have a remarkable demonstration of this in the moving pictures Some persons will have headache after fifteen minutes' watching The jiggling pictures produce a headache with startling rapidity, as a rule, but the history in such cases will show that the headaches date back to the time when the child first used his eyes for the near point

I am glad that the point of heredity has been mentioned with reference to migraine There is no disease which is so hereditary as migraine I once called attention to the epileptic features in migraine For a long time I thought a patient of mine had petit mal attacks, but proper management led me to the final diagnosis of a migraine I have a case now in which the attack commences with a tingling in the head, shortly after this the side of the face seems to be drawn, speech is thick, and there is distinct aphasia The right leg also drags a little This lasts for fifteen or twenty minutes, and in about half an hour severe headache comes on, followed by all the vasomotor phenomena of migraine Migraine is a distinctly psychoneurotic disorder, and essentially hereditary, so that it is important to remember that in making this diagnosis you must have a history extending back into the lives of the antecedents

There is no problem that requires more thorough and searching investigation than the origin of headaches and there is no condition so unimportant that it can be overlooked in any case of headache

Dr Harry Kahn In a frontal sinus disease there may be headache in the occipital region or headache from ethmoidal disease may be manifested in any part of the head There is no definite location, except probably in acute frontal sinus disease One point worth noting in frontal sinus disease is that patients have a band like pain in the morning, which is especially accentuated when working hard When the nose is cleaned out, the headache disappears, and by the middle of the day is gone, but this band like pain is very definite I have seen patients with chronic nasal suppuration who never had any headache A patient may have a chronic nasal discharge and pus in the nose without suffering from headache People also may have ozena for years without headache

There is a headache which is noticed in otologic work in which a year or six months after a patient has had the mastoid opened a headache appears, which is probably due to a shrinking or pressure on the dura This headache seems to be intractable Then, again, I have seen another form, a headache due to disease of the sphenoid sinus, in which there was simply a hypertrophic condition of the sphenoid sinus There is also a headache due to inflammation of the sphenopalatine ganglion, presenting definite symptoms of pain in the head, which has been treated by injections of alcohol into the sphenopalatine ganglion through the nose

Dr Robert Sonnenschein One of the most definite things about the localization of pain with reference to certain sinuses is the fact that no one sinus shows any characteristic reference of the pain, except that infection of the antrum usually causes pain in or about the cheek In cases of vacuum headache, especially those affecting the frontal sinus, there is a very distinct point of tenderness at the inner angle of the eye Pressure on the floor of the frontal sinus at that point causes excruciating pain Attention has been called by Halle of Berlin to a peculiar headache complained of by many persons, especially neurasthenics, and noticed mostly on arising This pain is located at the base of the skull, where the muscles are attached to the occipital bones, and characterized by the fact that massage with considerable pressure relieves it It is of no significance so far as lesions of the sinuses are concerned, but a point to be remembered in those cases of intractable headache occurring especially on arising

Dr C H Lovewell The form of headache due to constipation comes under the head of a toxic process, but, after all, it is the one most commonly seen in our general practice Just what we should do in these cases is a puzzle The patients almost invariably have taken all sorts of headache remedies, and only when they fear that they are becoming addicted to the use of these drugs do they consult the physician The druggist really is the man who can tell you about headaches because he is the one who sees most of them

Dr R B Preble I just want to refer to one point mentioned by Dr Church namely the reduction of arterial tension in these cases with high arterial tension If the tension can be reduced by a regulation of the diet and the manner of living it is all right, but it should not be brought down by the use of nitroglycerin

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Public Health, New York

November, III No 11, pp 1123 1252

1 Some Fundamental Physical Factors in Problem of Control of *Atmospheric Environment* E B Phelps Boston
2 Ventilation Investigation D D Kimball New York
3 Experiment with Ozone in School Ventilation F Bass, New York
4 Preliminary Studies in Air Washing and Its Results G C Whipple and M C Whipple, Boston

Annals of Otology, Rhinology and Laryngology, St Louis

September, XXII, No 3, pp 581 912

5 Diseases of Labyrinth with Report of Nineteen Cases F R Spencer Boulder, Colo
6 Some Conditions Associated with Loss of Cerebrospinal Fluid R B Canfield Ann Arbor, Mich
7 Odd Cases of Nasal Deflection with Suggestion as to Treatment of Nasal Adhesions O H Maclay, Chicago
8 Operative Findings and Results in Mastoiditis Acute and Chronic J M Ingersoll Cleveland
9 Radiography as Aid in Diagnosis of Mastoid Disease F M Law, New York
10 Modus Operandi of Galvanic Nystagmus L M Hubby, New York
11 Exhibition of Roentgenograms Illustrating Pathology of Mastoiditis H S Birkett Montreal
12 Technic in After Care of Radical Mastoid Operation P Hammond Boston
13 Faucial Tonsils as Focus for Systemic Infection G E Shambaugh Chicago
14 Two Cases of Cerebrospinal Meningitis Presenting No Central Nervous Phenomena until Shortly before Death T P Berens New York
15 Choice of Treatment in Chronic Suppurative Otitis Media G L Richards Fall River
16 Roentgenographic Findings Illustrating Anatomic Development of Mastoid Bone W H Stewart New York
17 Topography of Tympanic Cavity J A Cavanaugh Chicago
18 Some Anatomic and Clinical Relations of Sphenoid Sinus to Cavernous Sinus and Third Fourth, Fifth Sixth and Vidian Nerves G Sluder St Louis
19 Exhibition of Otitic Brain Abscess Cases and Mastoid Exenteration by Nature S M Smith Philadelphia
20 Report of Three Unusual Cases of Stammering G H Makuen, Philadelphia

21 Diagnosis and Treatment of Diphtheria. J. B. Green, Asheville, N. C.
22 Two Cases of Perforation of Petrous Portion of Temporal Bone Due to Capsulated Bacteria. H. B. Graham, San Francisco.
23 Surgical Management of Diseases of Frontal Sinus. R. C. Myles, New York.
24 Case of Ulceration of Larynx; Perichondritis of Arytenoid Cartilages, Abscess and Partial Exfoliation of Both Cartilages Resulting from Typhoid. J. H. Bryan, Washington, D. C.
25 Vasomotor Disturbances of Upper Air Tract. C. W. Richardson, Washington, D. C.

Archives of Internal Medicine, Chicago

December, XII, No. 6, pp. 613-802

26 "Typhoid Carrier" State in Rabbits as Method of Determining Comparative Immunizing Value of Preparations of Typhoid Bacillus. F. P. Gay and E. J. Claypole, Berkeley, Cal.
27 Agglutinability of Blood and Agar Strains of Typhoid Bacillus. F. P. Gay and E. J. Claypole, Berkeley, Cal.
28 *Examination for Diagnostic Purposes of Enzyme Activity of Duodenal Contents. A. F. Chace and V. C. Myers, New York.
29 *Hemorrhagic Disease. Antithrombin and Prothrombin Factors. G. H. Whipple, Baltimore.
30 *Practical Studies on So-Called Syphilis "Antigens," with Special Reference to Cholesterinized Extracts. J. A. Kolmer, E. E. Laubaugh, A. J. Casselman and W. W. Williams, Philadelphia.
31 *Circulation in Man. Blood Flow in Hands and Feet in Cases in which Obvious Anatomic Differences Exist. G. N. Stewart, Cleveland.
32 *Blood Transfusion and Regeneration in Pernicious Anemia. K. M. Vogel and U. F. McCurdy, New York.
33 *Pathogenesis of Contracted Kidney. L. Aschoff, Freiburg.
34 Uric Acid of Blood and Urine with Special Reference to Influence of Atophan. J. S. McLester, Birmingham, Ala.
35 *Some Forms of Urinary Nitrogen Affected by Administration of Desiccated Thyroid to Dementia Praecox Patients. E. L. Ross, Kankakee, Ill.
36 *Morphology of Blood in Epidemic Parotitis. J. H. Barach, Pittsburgh.
37 *Clinical Study of Hypertensive Cardiovascular Disease. T. C. Janeway, New York.

28. **Enzyme Activity of Duodenal Contents.**—Active amylolytic, lipolytic and proteolytic enzymes were found by Chace and Myers to be present in duodenal juice, though the activity of these enzymes is apparently subject to considerable variation under normal conditions. The acidity of the gastric juice appears to be without influence on the activity of the enzymes present in the duodenal juice. In a case of carcinoma of the gall-ducts and pylorus with biliary obstruction, there was an entire absence of bile from the duodenal juice. In a case of chronic pancreatitis, the amylolytic and proteolytic activity was entirely negative, while the lipolytic activity was comparatively weak. The absence of pancreatic enzymes from the duodenal juice would appear to be positive evidence of either pancreatitis or non-potency of the pancreatic ducts, while the lack of bile would appear to afford similar evidence of the occlusion of the common bile-duct. Further observations on these conditions are desirable.

29. **Hemorrhagic Disease.**—True hemorrhagic disease, Whipple says, is rarely associated with simple obstructive icterus, contrary to common belief. Delayed coagulation time in jaundice may be influenced favorably by calcium, but such cases do not suffer from bleeding unless there is some other abnormality—for example, an excess of antithrombin. In these rare cases of true hemorrhagic disease associated with profound icterus, Whipple presupposes some liver disease and an upset in the antithrombin-prothrombin balance. Calcium has no effect on this condition. Disease of the blood-forming organs may present symptoms of hemorrhagic disease because of an excess of antithrombin in the blood. Whipple believes that it is unlikely that the blood-forming tissues are directly concerned in the antithrombin production, as this element is much in excess in the case of anemia with complete marrow aplasia. He regards it as being possible that the products of blood-cell disintegration may stimulate an overproduction of antithrombin, and probable that the majority of hemorrhagic cases and purpuras associated with leukemias and anemias belong in the antithrombin group. Melena neonatorum in many, perhaps all, instances is characterized by a relatively sudden disappearance of prothrombin from the blood. This condition usually develops during the first two weeks of life and is often fatal. The cases react favorably to fresh serum treatment.

Whipple advises that the treatment of hemorrhagic disease should follow a careful analysis of the blood, as harm can be done by faulty treatment. In cases of low or absent prothrombin, serum which is rich in this element is indicated. It should be given intravenously if possible. Direct transfusion is of even greater value. Treatment of antithrombin cases offers great difficulties. Serum treatment offers no help and it may even stimulate a still greater overproduction of antithrombin. Indirect transfusion is open to the same criticism, as large amounts of thrombin are introduced. If the means by which the antithrombin is neutralized or used up in the normal body can be found out by various animal experiments, the solution of this problem in treatment of antithrombin cases may be reached. At present direct transfusion seems to offer the greatest hope of permanent benefit.

30. **So-Called Syphilis "Antigens."**—In the order of efficiency in the practical serum diagnosis of syphilis the authors arrange the various extracts as follows: 1. Cholesterinized alcoholic extracts of human, pig and beef heart, named in the order of efficiency and safety. It should be remembered that these extracts may yield slight degrees of inhibition of hemolysis with normal serums and must therefore be carefully controlled. Cholesterinized alcoholic extracts of syphilitic liver have the advantages of cholesterin and any additional product of the *Treponema pallidum* which may be present. 2. Plain alcoholic extracts of known syphilitic liver. 3. Acetone-insoluble lipoids (Noguchi). 4. Plain alcoholic extracts of human, pig and beef heart. 5. Acetone extract of syphilitic liver. 6. Plain alcoholic extract of normal liver.

The authors claim that best results are secured in the practical serum diagnosis of syphilis by using several "antigens" with each serum, including plain and cholesterinized extracts. This increases the amount of work and the quantities of the various components of the reaction, but results warrant the former and the latter is readily overcome by using just half the quantities of Wassermann's original technic. Thus 0.1 c.c. of serum may be used with each "antigen" instead of the usual 0.2 c.c., the quantities of complement, amboceptor and corpuscle suspension being equally divided. In this manner 1.0 c.c. of serum (2 to 3 c.c. blood) will be sufficient for conducting the Wassermann and Noguchi reactions with at least two to four "antigens," including the usual serum controls.

31. **Blood-Flow in Hands and Feet with Obvious Anatomic Differences.**—In a man with healing burns on the hands Stewart found that the apparently great vascularity of the new tissue did not correspond to an abnormally great flow. Certain phenomena interpreted as due to a peculiar vasomotor instability of the new vessels were observed in testing the vasomotor reflexes. A relatively good flow in the feet was seen in a man with great and persistent edema of both legs in whom a diagnosis of Hodgkin's disease was made. This was interpreted as indicating obstruction rather on the lymph path than on the venous path. Three cases of unilateral inflammation in the hand, one bacterial and two non-bacterial (gout and a sprain) were compared. The flow in the infected hand was increased, while in the normal hand it was diminished. In the case of gout, while the flow in the inflamed hand was greater than in the normal hand the difference was much less than in the case of infection. The contralateral vasoconstrictor reflexes from the normal to the inflamed hand were very slight in the case of the infected hand, of normal intensity in the case of gout. It is suggested that this indicates the existence of a relative vasoconstrictor block in bacterial inflammation in the interests of a permanently large flow of blood to combat the infection. Temporary anemia of the hand (produced by bandaging) was followed by a moderate increase in the flow in a normal man.

In cases of congenital differences or differences originating in early life between the two hands, the blood-flow in the defective hand corresponded to its functional condition, being of normal magnitude when the power of the hand was good. In a case in which some of the fingers of one hand had been lost by amputation, the flow per unit of volume was distinctly less in the defective than in the intact hand. This is mainly because the surface of the fingers is, in proportion to their bulk, so much greater than that of the rest of the hand. It is for the same reason that the flow per unit of volume is much greater in the distal half of the normal hand than in the hand as a whole. In a case in which the innominate and the right common carotid arteries had been ligated one month previously, the flow in the right hand was two-sevenths of that in the left, although no pulse could be felt in the radial. Sixteen weeks later the ratio had risen to 1 : 1.3, the flow in the left hand being normal in amount.

32. **Blood-Transfusion and Regeneration in Pernicious Anemia.**—The transfusion of physiologically unaltered blood is held by Vogel and McCurdy to be one of the most promising forms of palliative treatment available in pernicious anemia. The number of cases on record in which a remission of notable degree and considerable duration has followed immediately on a transfusion is so great as to make it impossible to regard these results merely as coincidences. If proper precautions are taken to select a healthy donor and by the usual tests for isohemolysins and isoagglutinins the serum and corpuscles of donor and recipient are found mutually congenial, there is no danger, and the measure should be employed earlier in the disease instead of waiting until the patient is in a desperate condition There is evidence in favor of the view that greater judgment and accuracy are needed in determining the amount of blood to be transferred. It is quite possible that too large an amount of transferred blood may be injurious, and that more benefit is to be expected from small doses introduced at intervals to be determined by the progress of the patient. The enumeration of the reticulated cells by means of the method of vital staining affords a useful means of gauging the hemopoietic activity of the bone marrow, and by watching the patient's progress in this way the indications for and effects of various therapeutic measures can be well determined and supervised.

33. **Pathogenesis of Contracted Kidney.**—In the severe forms of nephritis, Aschoff says oliguria depends on a glomerular disease and not on a disease of the blood vessels. Also the polyuria, both in the nephritic as well as in the vascular contracted kidney, in so far as the histologic findings seem to indicate, does not depend on a hypersensitiveness of the still diseased vessels, but on the increased work of the undamaged vessels and their respective filter apparatus, or the only slightly damaged ones, or those which have entirely recovered from their damage.

These forms of polyuria are compensatory or accommodative in nature and, he says, must be sharply distinguished from the acute irritative polyurias of toxic origin. The latter depend on a local damage to the blood-vessel filter apparatus, the former on a functional accommodation, usually accompanied by simultaneous accommodative processes in the rest of the general vascular system. Aschoff emphasizes that the problem of acute nephritis is entirely different from that of the chronic nephropathies, just as in toxicology the problem of acute poisonings differs from that of the chronic. In the acute nephritides we have to do with the question of an acute damage to previously normal functions; in the chronic nephropathies the question is that of the possibilities for compensation and of a failure of these compensatory regulations.

35. **Urinary Nitrogen Affected by Desiccated Thyroid.**—The administration of desiccated thyroid to four patients with dementia praecox caused: (1) an increase in the output of total urinary nitrogen; (2) an increase in the output of creatinin; (3) an increase in the output of indol-acetic acid.

36. **Blood in Epidemic Parotitis.**—In uncomplicated cases of epidemic parotitis, Barach says, the leukocytes are affected in the following manner: By the time the disease has manifested itself—even though the parotitis is not yet developed—a leukopenia is present. The number of lymphocytes is moderately increased and the polynuclears have fallen below normal. When the parotitis is fully developed there is a marked leukopenia, most marked in the cases with the higher temperature and greater parotid involvement. In this leukopenia the polynuclears are relatively and absolutely decreased, the mononuclears are relatively and absolutely increased. As the disease subsides the total number of leukocytes, the polynuclears and mononuclears revert toward their normal proportion. The eosinophils, which are scarcely seen during the activity of the disease, are found in about their usual numbers as the blood returns toward the normal.

37. **Hypertensive Cardiovascular Disease.**—The most prominent symptoms associated with high blood-pressure according to Janeway are circulatory rather than renal. The disease underlying high arterial pressure is predominantly a disease of the circulatory system, and is best designated hypertensive cardiovascular disease, either primary or secondary when preceded by an inflammatory nephritis. Death in this type of cardiovascular disease, among patients in private practice, occurs in the following ways, arranged in the order of their frequency: First, by gradual cardiac insufficiency; second, with uremic symptoms; third, by apoplexy; fourth, from some complicating acute infection; fifth, in an attack of angina pectoris; sixth, from purely accidental and unrelated causes; seventh, in a paroxysm of acute edema of the lungs; eighth, after the manner of cachexia. The early symptoms associated with hypertensive cardiovascular disease have an important prognostic significance which can be utilized therapeutically, particularly for the institution of safeguarding treatment. The early occurrence of symptoms of myocardial weakness, especially dyspnea, indicates a more than 50 per cent. probability of an eventual death by cardiac insufficiency. In these patients, to safeguard the heart is the main therapeutic indication. The early occurrence of anginoid pain on exertion does not indicate a probability of death in an anginal paroxysm for more than one-third of the patients. It does indicate a probable cardiac death of some type. The therapeutic indications here are similar to the foregoing, except as modified by the existence of syphilitic aortitis. Anginal attacks as compared with other cardiac symptoms do not materially affect the expectancy of life.

Polyuria, particularly if nocturnal, indicates the probability of a uremic death for more than 50 per cent. of the patients. It is not essential to safeguard the heart in these patients, unless associated cardiac symptoms exist. Headache, especially that heretofore described as typical, indicates the probability of a uremic death for more than 50 per cent. of the patients, and of the death from apoplexy for a considerable number of the remainder. The therapeutic indications are similar to those of polyuria. Loss of flesh, if marked and progressive, is a symptom of bad prognostic import. The relation of the height of the blood-pressure to prognosis is doubtful. Systolic pressures persistently well above 200 mm. Hg seem to indicate a greater probability of death by uremia or apoplexy. The exact height of the blood-pressure does not seem to have much bearing on the expectancy of life.

The average duration of life in this group of patients, after the onset of symptoms associated with high blood-pressure, has been four years for the men and five for the women. One-half of the whole number of deceased died during the first five years. One-quarter of the number lived between five and ten years, and the remaining quarter over ten years from the appearance of the first symptom. The existence of this considerable number of patients living for a long period of time suggests the need of great caution in making a prognosis as to expectancy of life.

Archives of Pediatrics, New York

November, XXX, No. 11, pp. 801-880

38 Acute Lymphatic Leukemia: Report of Three Cases. F. Huber, New York.
39 Case of Bilateral Hydroureter—Chronic Pyocyaneus Infection. H Heiman, New York.
40 Oxycephaly. M. S Reuben and E E Cleaver, New York.
41 Metabolism Studies of Amaurotic Family Idiocy, with Clinical and Pathologic Observations. A Hymanson, New York.
42 Campaign of Prenatal Hygiene in New York. P. Van Ingen, New York.
43 School Child in Its Relation to Eugenics. L T. Royster, Norfolk, Va
44 Unusual Phases of Child Hygiene M. S Macy, New York.
45 *Picric Acid as Aid in Treatment of Various Skin Lesions. H. B. Wilcox, New York.

45. **Picric Acid in Skin Lesions.**—As an aid in the relief of discomfort attendant on skin lesions and in the production of a cure in them, Wilcox says picric acid has proved its

worth, in some cases being almost a specific and usually of very great assistance. The danger of untoward results by absorption is negligible. The drug is safe and easy to handle, the only drawback being the permanent staining of everything with which it comes in contact. Better results were obtained in the acute than in the chronic eczemas; most striking was the improvement seen in the acute cases having profuse exudation, excoriation and crusting. In the milder cases an aqueous solution painted on several times daily and allowed to dry was used, while in the more severe cases wet dressings of picric acid were applied, held in place by a facial mask. Lessening of the itching and pain attendant on the inflammatory condition was almost immediate. Reduction in the serous exudation and softening of the crusts were equally prompt. Improvement in the induration was rapid, as was the subsequent epithelialization. Such a rapid relief of the suffering attendant on this distressing condition was not obtained by any other means. Picric acid alone was not as efficacious in the subacute and chronic types of the disease; it was found, however, that the curing of the lesions was hastened materially by treatment initiated by two or three days' application of the picric acid solution. The effectiveness of the usual ointments, containing zinc, tar, salicylic acid, calomel, mercury, etc., was much greater than without this preliminary treatment.

Intertrigo was treated with picric acid. The solution was painted on the surfaces of the skin involved and they were kept from coming into contact by thin layers of absorbent cotton. In the more severely infected cases wet dressings were used. Cures were effected in about half the time taken on similar cases treated with ichthyol solutions. The use of picric acid in intertrigo was so satisfactory that a bottle of the aqueous solution is now part of the regular equipment of the dressing carriage, and the nurses, in the routine of changing the babies' napkins, apply it whenever the buttocks appear red or irritated.

Results in the treatment of erysipelas were not uniformly successful. In certain ways they were, however, more satisfactory than the results obtained by the use of any other method. The discomfort and pain attendant on the condition were relieved more quickly and the edema disappeared rapidly. In several cases, desquamation in cast-like masses followed the use of picric acid, leaving a healthy normal skin beneath. A reduction in the temperature in these patients was the rule, occurring with or without marked improvement in the local condition.

In herpes labialis a more rapid drying up of the lesion and fewer extensions of the trouble were obtained with picric acid than with any other method used. With the exception of immediate and constant relief from the itching, children suffering from psoriasis showed no particular response to the treatment. In impetigo, better results were obtained with the use of antiseptic ointments than with picric acid washes. Picric acid ointments were not used on these cases.

Boston Medical and Surgical Journal

December 11, CLXIX, No. 24, pp. 853-892

46 *Errors of Diagnosis in Gall-Bladder Disease from Surgical Point of View. J. H. Gibbon, Philadelphia.
47 *Condition of Upper Region of Abdomen in Relation to Disease of Gall-Bladder. C. G. Stockton, Buffalo, N. Y.
48 Acute and Chronic Suppuration of Middle Ear. G. L. Tobey, Boston.

December 18, No. 25, pp. 893-928

49 Dr. Fitz' Contribution to Pathology. W. T. Councilman, Boston.
50 Dr. Fitz as a Teacher. W. S. Thayer, Boston.
51 Dr. Fitz' Association with Massachusetts General Hospital. H. P. Walcott, Boston.
52 Dr. Fitz' Service to Medical Education. C. W. Eliot, Boston.
53 *Symposium on Reportability and Control of Venereal Diseases. S. L Strong, Boston.

46. **Diagnosis of Gall-Bladder Disease.**—A history of indigestion which manifests itself soon after eating by a sense of fulness and the eructation of gas; by attacks of pain of sudden origin in the upper right quadrant passing across the abdomen and around to the back and perhaps to the right shoulder-blade, and which are relieved by vomiting; and the *finding of marked localized tenderness on palpation* when the patient takes a deep breath; certainly suggest gall-bladder trouble. If we have added to these severe colic requiring morphin for relief and followed by a transient jaundice, we are quite justified in making a diagnosis of gall-stones. Gibbon, however, cites cases to illustrate that a patient can have all of these and still not have gall-stones.

47. **Condition of Abdomen and Disease of Gall-Bladder.**—Stockton says a sufferer from infection of the urinary tract may fail to improve with antiseptics or vaccines, but when diet, baths, recreation and open air life are added to the course of treatment, immediate improvement is to be observed. Similar facts are true of diseases of the gall-bladder. It is particularly true because of the close relationship between the gall-bladder and the liver, and the liver, more than any other single organ, feels first the evil results of metabolic deficiency and the harmful effects of the lithemic and gouty diathesis. Attention is directed by Stockton to the importance once attributed to latent gout, to lithemia and to oxalemia. However, these neglected subjects were, and yet are, worthy of closest study. He says that this generation will scarcely listen to one who advises a course of colchicum, alkalies, *a diet scientifically prescribed, systematic diaphoretic* baths, massage and out-of-door exercise in the cure of infection of the urinary or biliary tract, but surely the time is at hand when the obscure subjects of gout, oxalemia and other metabolic defects will stand again in the foreground, not only in explaining pathogenesis, but in guiding therapeutics.

53. **Venereal Diseases.**—In the early months of 1913 letters were sent by Strong to some fifty physicians in Massachusetts and other states to ascertain the prevailing opinions regarding the reportability and control of venereal diseases by boards of health. As to belief in the reportability and control of venereal diseases by the boards of health this canvass would seem to show that a majority of physicians do believe in it at the present time. On the matter of practical adaptation and enforcement the profession is about equally divided, the prevailing view being that more efficient means of treating these diseases in hospitals must be provided before such a move can be taken. Venereal diseases cannot probably be controlled to the same degree as small-pox, scarlet fever, diphtheria, etc., for some time to come. The desirability of gathering more accurate statistics regarding the efficiency of the treatment of venereal diseases is widely recognized. This should be done by societies already existing or by the formation of new organizations with this special object.

Cleveland Medical Journal

November, XII, No. 11, pp. 723-800

54 Metaplastic Bone and Marrow Formation in Vessel Walls. H. O. Ruh, Cleveland.
55 Epidemiology of Whooping-Cough, Measles, Scarlet Fever and Diphtheria, in Cleveland for 1913. R. G. Perkins and Others, Cleveland.
56 Gland Changes in Endometrium. J. T. Smith, Cleveland.
57 Cause and Treatment of Menstrual Membranes. B. L. Spitzgig, Cleveland.
58 Three Cases of Retinitis Pigmentosa. M. W. Carpenter, Cleveland.
59 Conservation of Faucial Tonsil. S. H. Large, Cleveland.

Illinois Medical Journal, Chicago

December, XXIV, No. 6, pp. 321-388

60 Is Sterilization Destined to be a Social Menace? G. F. Lydston, Chicago.
61 *Treatment of Hernia in Children. A. J. Ochsner, Chicago.
62 Physician and Defectives. C. B. Caldwell, Lincoln.
63 Dry Treatment of Leucorrhea and Cervical Erosions. J. A. Koch, Quincy.
64 *Vaccine and Serum Therapy from Dr. Murphy's Clinic. P. H. Kreuscher, Chicago.
65 Etiology of Hypertrophic Rhinitis. J. A. Pratt, Aurora.
66 Ventilation Rather than Drainage Essential for Cure of Sinus Disease, with Special Reference to Antrum of Highmore. L. Ostrom, Rock Island.
67 Diagnosis and Treatment of Meningeal Complications of Suppurative Diseases of Temporal Bone. N. H. Pierce, Chicago.
68 Operative Treatment of Fractures with Contracture of Attached Muscles. P. B. Magnuson, Chicago.
69 Treatment of Trachoma with Special Reference to Expression and Friction with Darling's Ground Glass Rod. C. G. Darling, Chicago.

61. **Hernia in Children.**—Ochsner points out that approximately 95 per cent. of all cases of hernia in children will

heal spontaneously if the abnormal intra abdominal pressure is relieved and the hernial sac is kept empty This can be accomplished by means of trusses or much more rapidly in inguinal and femoral hernia, by placing the child in bed with the foot of the bed elevated, the time required usually does not exceed six weeks and in most cases the hernia will heal by relieving the abnormal intra abdominal pressure and simply placing the child in bed with the foot of the bed elevated each night from 6 p m to 8 a m for several months Children with a tendency to the formation of hernia should be guarded against developing coughs Their diet should be given at regular times and chosen with a view to avoiding gaseous distention Constipation should be entirely prevented In case of boys, phimosis should be relieved if present by operation Badly nourished and badly cared for children of the poor should be treated in hospitals, being placed in bed in the Trendelenburg position, the cause of increased intra abdominal pressure being removed at the same time by proper diet and treatment Operation is indicated (a) in strangulated hernia, (b) in irreducible hernia due to adhesions, (c) in case the opening is unusually large in a free hernia, especially if the condition is hereditary, (d) in reducible hydrocele, (e) in cases with undescended testicle unless they show a tendency toward spontaneous cure

64 **Vaccine and Serum Therapy**—Kreuscher concludes his paper as follows Biologic therapy will in a short time, it is believed, revolutionize the present day treatment of many medical and surgical lesions, and particularly in the early acute infections Vaccines have failed in many instances to give the desired results because they were given in cases for which they were never intended Autogenous vaccines should always be given when it is possible to obtain them, but that there are cases in which there is a positive indication for mixed vaccines and occasional cases for stock vaccines Vaccines must not be expected to reconstruct tissues, organs or joints that have been destroyed by known or unknown pathogenic organisms That they are prophylactic against such destruction and to be effective must be timely and intelligently administered Vaccines and serums although now used as adjuncts in medical and surgical therapy, have done much to relieve suffering humanity, and have made producers of many who would otherwise have been burdens to society

Kreuscher reports good results from vaccine therapy in a large variety of cases such as acne, furunculosis and carbunculosis, and infections of the lymph nodes, chronic rhinitis, asthma, hay fever bronchitis, empyema, and tuberculosis with mixed infection, osteomyelitis and infected surgical wounds of all descriptions, chronic enteritis and kidney and bladder infections not associated with obstruction by foreign bodies, low grade pyogenic or saprophytic infections and acute and chronic joint infections In ninety cases of arthritis, three classes were distinguished (1) That type of deforming arthritis of gradual and insidious onset from which no organism can be obtained, either from the joints or from the blood stream, or from the secretions or excretions (2) Those cases mostly of the chronic variety, which had their origin in ancient infections of the mouth, pharynx, tonsils respiratory tract, intestinal tract, from which it was impossible to obtain any one specific organism at the time the patients came for treatment, but which yielded to mixed vaccines (3) Those patients with acute or chronic infections of the joints in which a distinct causative organism or organisms could not be isolated

Journal of Cutaneous Diseases, New York

December, XXXI, No 12, pp 975-1062

70 *Vaccine Therapy as Applied to Cutaneous Diseases T C Gilchrist, Baltimore
71 Metabolism of Dermatitis Herpetiformis and Prurigo Their Relation to Anaphylaxis H J Schwartz New York
72 Attempt to Determine Bacterial Etiology of Acne with Complement Fixation Reaction M Haase, Memphis Tenn

70 **Vaccine Therapy**—Gilchrist speaks of his six years of experience with vaccine therapy in the treatment of cutaneous diseases (about 800 cases) He has had brilliant results, moderate successes and many failures, probably about in equal proportions He emphasizes that whenever an organism is obtained in pure culture from a case of skin disease, it is only proper that an autogenous vaccine should be used, especially if it is chronic or subacute, or, when the disease is acute, and it does not yield to the usual modes of treatment and becomes dangerous It is still necessary to pay careful attention to diet, to the regular functions of the body, to other internal and external treatments, as well as the application of Roentgen rays in some cases Many infectious diseases of the skin do not require vaccines at all, as, for example, impetigo contagiosa, in which in the very large majority of the cases local applications cause the lesions to disappear in a few days Vaccines are of the greatest value in chronic or subacute and especially relapsing staphylococcic affections of the skin, where there is a lack of production of antibodies being worn out Vaccines are of great value in the treatment of relapsing furunculosis, sycosis vulgaris, pustular dermatitis and folliculitis

In the various forms of eczema the results vary, and Gilchrist says that if a case of pustular, weeping or vesicular eczema is chronic, or relapses, and does not yield rapidly to the usual treatment, then vaccines should be tried In rosacea the treatment yielded some very marked results In connection with acne vulgaris, vaccine therapy has proved to be of great value in the treatment As the result of his experience in the treatment of about 400 cases of acne, Gilchrist finds that a stock *bacillus acne* vaccine made in the hospital laboratory is as efficacious as an autogenous one Gilchrist has also used ointments made up with various skin organisms successfully It appears as if a localized immunity was produced by the application of such ointments The use of a filtrate from living organism was tried with some success in three cases of blastomycosis Filtrates from the staphylococci were also used in staphylococcic affections, but not with beneficial results

Journal-Lancet, Minneapolis

December 1, XXXIII No 23 pp 673-682

73 Tonsils Some Pathologic Reasons for Their Removal L N Grosvenor Huron S Dak
74 Common Infections That Are Erroneously Diagnosed as Grip C T Sherman Luverne, Minn
75 Ocular and Aural Vertigo W R Murray Minneapolis
76 Diagnosis of Surgical Conditions of Kidney and Ureter A I LaRose Bismarck N Dak

December 15, No 24, pp 683-708

77 Preparatory and Postoperative Treatment T J Plondke St Paul
78 Medical Ethics S J Paulson Flaxton, N Dak
79 Postoperative Conditions B C Murdy, Aberdeen, S Dak
80 Utility of Public Health Work F R Smyth, Bismarck, N Dak

Kentucky Medical Journal, Bowling Green

December 1, XI, No 23, pp 1003-1042

81 Contracture of Neck of Bladder G H Day Louisville
82 Prostatic Hypertrophy H G Hamer, Indianapolis
83 Atony of Bladder C L Wheeler, Lexington
84 Half a Century in Medicine J F Freeman Chestwood
85 Placenta Praevia J J Wakefield Bloomfield
86 Anesthetics and Anesthesia in Labor H D Rodman Bardstown
87 Care of Aged D O Hancock Henderson
88 Acute Pemphigus Vegetans S J Harris Philpot
89 Therapeutics of Childhood E A Cram, Butler
90 Typhoid and Its Treatment S J Simmons Gradyville
91 *Extra Uterine Pregnancy, Diagnosis and Treatment N C Witt Franklin
92 Estimation of Blood Pressure in General Practice J F Horine Louisville
93 Chronic Constipation Its Causes and Treatment C M Rice, Southerland
94 Hygiene and Sanitation in Fourth Class City M C Boyd, Cynthiana
95 Pioneer Medical Journalism in Kentucky J G Hendricks, Central City
96 Hernia in Children J B Richardson Louisville

91 Abstracted in The Journal, Sept 20, p 990

Medical Record, New York

December 13, LXXXIV, No 24, pp 1059-1104

97 Surgical Treatment of Diffuse Suppurative Labyrinthitis P D Kerrison New York
98 Radium and Roentgen Therapy in Cancer I Levin New York
99 Radium in Treatment of Cancer W H Dieffenbach New York
100 Chorioepithelioma, Report of Fatal Case W M Hartshorn, New York

101 Acute Phlegmonous Cholecystitis Report of Case with Gangrenous Enteritis A E Roussel, Philadelphia
102 Roentgenography in Pulmonary Gangrene E Gros and M E Rehfuss, Paris, France

December 20, No 25, pp 1105 1150

103 Aortitis Syphilitica I W Held, New York
104 *Carcinoma Question as It Pertains to Uterus C. W Barrett, Chicago
105 Thirty Three Cases of Thyroid Disease B Davidson, Brooklyn, N Y
106 School Medical Inspection in New York City S J Baker, New York
107 *Comparison of Methods for Diagnosis of Tuberculosis by Sputum Examinations W S Davis, Albany, N Y
108 Some Early Symptoms of Mental Disturbances A K Petery, Norristown, Pa
109 *Vaccine Therapy of Pertussis P Luttinger, New York
110 Turbinotomy E A Griffin, Brooklyn

104. Carcinoma Question as It Pertains to Uterus.—Barrett emphasizes the following points

1 The epithelial cell reaction, known as carcinoma, is probably due to a microorganism or agent yet unknown 2 The cell reaction now known as carcinoma may prove to be a primarily protective tissue reaction against the cancer infection 3 Women come to the age of frequency of cancer with many benign conditions which serve an opportunity for the introduction of this agent or furnish the irritation which lights up the malignant proliferating process, or both 4 Proper attention to these conditions would decidedly reduce cancer of the uterus 5 These conditions receive a large amount of neglect from the profession and the laity 6 Correction of pelvic pathology as it occurs, and especially as a woman nears the end of the child bearing period will lessen her chances of developing cancer and will otherwise vastly increase her comfort during the 25 or 40 years of life she should have remaining 7 There is a fair chance of eradicating early cancer, with almost no chance of other than ameliorating late cancer 8 Education of the profession and of the public on these points is sorely needed 9 Honesty and intelligence should combine not to watch precancerous suspicious, or early cancer pathology, but to eradicate pathology whether benign or malignant In other words pathology has no place in the human body much less in an organ of great cancer frequency We know no tumor, swelling, erosion, ulceration, cystic degeneration, or irritation that is best to go untreated; if it does not yield to simpler means it should be removed 10 Early radical removal is at present our best method of attack when cancer has once begun, but it is not ideal We may hope for a better method 11 Late cancer can often be checked, symptoms ameliorated nutrition improved comparative comfort restored, life prolonged and perhaps occasionally the cancer completely eradicated by single or repeated cauterization and the same results are claimed on good authority for other measures but these do not offer enough hope to displace early surgical measures 12 Surgery must find its greatest success, not in more radical removal, but in earlier opportunity

107 Diagnosis of Tuberculosis by Sputum Examinations—In utilizing the method of separating the tubercle bacilli by treating the sputum simply with an equal volume of saturated aqueous solution of common salt, thoroughly shaking and allowing to stand for six hours, then skimming the surface with the platinum loop and making therewith a smear on a slide, and stained either slowly in the cold or if time is an object by hot stains, Davis believes that a distinctly advantageous and accurate method for the routine diagnosis of *Bacillus tuberculosis* in sputum is offered No special apparatus such as shaker or centrifuge is required, the proven accuracy of findings is 99 per cent (the superior of any other method yet brought forward for comparative valuation) and it would be possible for the attending physician to himself treat the sputum, skim the surface and make the smear on the slide which would then be all that would be requisite to forward to the laboratory for the expert diagnostic stain and examination

If time is a factor in the technic of staining for microscopic diagnosis resort to hot staining is recommended, and in this case, as soon as the specimen is fixed on the slide, immerse the slide in the carbol fuchsin stain, itself maintained in a hot water bath at 100 C Allow to remain in the hot stain for three minutes, remove and wash with tap water Decolorize cold with acid alcohol for eight seconds Wash with tap water and stain with cold methylene blue for one minute, wash thoroughly with tap water and dry the specimen, now ready for the microscopic examination

109 Vaccine Therapy of Pertussis.—Pertussis vaccine, used by Luttinger in ten cases of whooping cough apparently reduced the severity and shortened the duration of the disease To be effective, Luttinger says the vaccine should be given in much larger doses and at shorter intervals than hitherto recommended A dose of 50 000,000 bacteria should be tested as a prophylactic.

New York Medical Journal

December 13, XCVIII, No 24, pp 1141-1192

111 Pus in Urine V C Pedersen New York
112 Theory and Treatment of Diabetes W E Fitch, New York
113 Physical, Mental and Moral Vigor of Our Schoolchildren S A Knopf, New York
114 Spina Bifida J P Hoguet New York
115 Kinetic Neuroses and Psychoses T J Orbison, Los Angeles, Cal
116 Intestinal Obstruction due to Fibroma R M Alexander, Wernersville, Pa
117 Medical Sociology in Public Schools M S Macy New York
118 Epidemic of Trichinosis in Pennsylvania J Ballagi, Homestead, Pa

December 20, No 25, pp 1193 1240

119 Question of Diabetes at International Congress of Medicine in London R Lepine Lyons, France
120 Orbital Abscess from Infection Through Ethmoid · Report of Two Cases J O Roe, Rochester
121 *Epilepsy E H Mullan, New York
122 Bacteriology of Pyorrhea Alveolaris C P Brown, Philadelphia
123 Mechanotherapeutics of Acute Croupous Pneumonia E F, Cyriax London, England
124 Cerebrospinal Fluid and Its Diagnostic Significance A I. Rubenstone, Philadelphia
125 Pellagra in Maine E W Gehring, Portland Me
126 Atypical Infantile Paralysis F L Wachenheim, New York

121 Epilepsy.—The advantages of state institutions for epileptics are enumerated by Mullan as follows

1 For economic reasons, a collection of patients in a colony or hospital can receive the most modern care and treatment, the like of which could not be furnished to an individual 2 The patients in such a place lead a well regulated life under careful supervision Exercise, amusement, food baths work, medication etc, are carefully prescribed to suit individual cases 3 The patients have the benefit of experienced physicians and nurses who are constantly becoming more expert 4 'Idleness is the devil's workshop," is especially true in regard to epileptics At these colonies various kinds of work can be afforded as best suited to the degree of learning and need of the individual On colony farms, outdoor work, which is so beneficial, can be afforded Farm work, gardening, dairy work, poultry raising, can be indulged in, and the progress of dementia is thus retarded 5 The colony is able to maintain a graded school with trained and experienced teachers 6 In a few instances patients who are doing fairly well may be granted furloughs These frequently act as real stimulants to the epileptics, and their visits home, often in an improved condition are appreciated by their relatives 7 Being fellow sufferers the epileptics have sympathies and interests in common They are thus enabled to bear their sorrows more patiently, and life is made comparatively happy for them 8 In colony life their physical and mental condition actually improves This is frequently shown by the thin and delicate becoming stout and resisting soon after their arrival The seizures become less severe and the interval between them often lengthens In fact, their lives are prolonged 9 In independent colonies the epileptic, on account of his physical or mental fit, will not afford an objectionable sight to the feebleminded or other invalids with whom he is now often housed 10 In such institutions the sexes can be separated which is such an important step in preventing the reproduction of epileptics and other defectives 11 Being together in large numbers they afford the opportunity for clinical pathological and therapeutic research Such research is benefiting and will continue to benefit epileptics and it will be instrumental in diminishing the incidence of this dreadful malady

At present in thirty four states (including the District of Columbia), epileptics are cared for in public and private hospitals, sanatoriums, institutions for incurables, pauper asylums and homes State hospitals or colonies established solely for the purpose of treating and caring for epileptics are nine in number They are located in Connecticut, Indiana, Kansas Massachusetts, New Jersey, New York, Ohio, Texas and Virginia Other state institutions in which epileptics are cared for are in Michigan, Minnesota, Missouri, North Carolina and Wyoming The following states now have laws which wholly or in part prohibit the marriage of epileptics: Connecticut, Indiana, Kansas, Michigan, Minnesota, New Jersey, Ohio, Utah and Washington.

Texas State Journal of Medicine, Fort Worth

December, IX, No 8, pp 235 266

127 Importance of Early Action in Controlling Epidemic Diseases. G M Guiteras Galveston
128 Eternal Question W C Dickey Memphis
129 Some Needed Reforms in Practice of Gynecology B Saunders Fort Worth
130 Ovarian Neuralgia L A Suggs, Fort Worth
131 Bone Implantation in Potts Disease C. S Venable, San Antonio
132 Blackwater Fever Its Causes and Treatment A Woldert, Tyler
133 Treatment of Surgical Shock R L Ramey, El Paso
134 Relative Importance of Human and Bovine Tuberculosis Infections in Man V H Keiller, Galveston

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

October 25, XXXIV, No. 17, pp. 381-404

1 Common Peritoneal Folds and Fossae. A. C. Magarey.
2 Case of Pneumococcus Peritonitis. J. P. Hastins.

November 1, No. 18, pp. 405-424

3 Rat Leprosy in North Queensland. H. Priestly.

November 8, No. 19, pp. 425-450

4 Recognized Scheme for Medical Inspection of Children Attending State Schools of New South Wales. C. S. Willis.
5 Lactescent Ascites. J. B. Nash.

Nov. 15, No. 20, pp. 451-474

6 Movable Kidney. E. S. Jackson.
7 Diagnosis and Treatment of Some Renal Affections. T. Ambrose.
8 *Large Inguinal Hernia. H. Norrie.

8. **Large Inguinal Hernia.**—On opening the sac in this case it was found to contain the cecum and a long healthy appendix, 6 feet of small intestine, with a Meckel's diverticulum 3½ inches in length, the left ovary and tube, and left round ligament. The total length was 14½ inches, and the circumference 21 inches.

British Medical Journal, London

November 29, II, No. 2761, pp. 1417-1468

9 Paroxysmal Dyspnea in Cardiorenal Patients: Special Reference to "Cardiac" and "Uremic" Asthma. T. Lewis.
10 Clinical and Bacteriologic Aspects of Leprosy. H. Bayon.
11 *Report of Seven Fatal Cases of Acute Pancreatitis. A. J. Blaxland and G. P. C. Claridge.
12 *Diagnosis and Treatment of Intestinal Obstruction. E. Deanesly.
13 Case Contributing to Study of Fever without Other Physical Signs. H. G. Lawrence.
14 Significance of Frequency and Tenesmus in Acute Cystitis. O. Heath.
15 Simple Splint for Flail Elbow. R. Parker.
16 *Treatment of Tuberculous Peritonitis. H. Lawrie.
17 Right Shoulder Pain in Perforated Duodenal Ulcer. C. P. Burd.

December 6, No. 2762, pp. 1469-1520

18 *Large Intestine and Its Work. J. Griffiths.
19 Health, Fatigue and Repose. W. Stirling.
20 *Traumatic Intramuscular Ossification. J. Morley.
21 Operative Treatment of Hemorrhoids. H. G. Anderson.
22 Rheumatic Nodules (Rheumatismus Nodosus) Associated with Rheumatic Torticollis. F. P. Weber.
23 Daily Weight Chart as Guide to Tuberculin. H. W. Crowe.
24 Bacteriology of Mouth in Maori Children. H. P. Pickerill and S. T. Chamtaloup.

11. **Acute Pancreatitis.**—This condition in the authors' opinion is caused by the entrance of bile or duodenal contents into the pancreatic duct, which there activates the pancreatic ferment and causes a digestion of the gland, a circumstance which may be followed by the invasion of microorganisms. In some cases this digestion apparently takes place without any invasion by microorganisms. This digestion in the gland affects the blood-vessels, leading to hemorrhage in and around the gland. This process then spreads beyond the confines of the gland, leading to the phenomenon of fat necrosis in other parts of the abdomen. It appears that fat necrosis is not seen in cases in which pancreatic juice alone has found its way into the peritoneal cavity, but that when this is mixed with bile the phenomenon occurs. The authors claim that this theory of pancreatitis seems to be borne out by the pathologic findings in their cases, in which all stages of the condition were met with, from the very earliest in which the cells still stain fairly well but are seen to be separated from each other and from the basement membrane, to the most advanced, in which all indication of the structure of the gland has disappeared and only a few nuclear fragments are seen. These conditions, they maintain, are due to the invasion of the gland by bile or bile-containing fluid by way of the ducts. In some of these cases, too, inflammatory reaction and abscess formation were present in addition to the above features, and in these cases they suggest that the gland has been secondarily infected by some microorganism. If this infection does not take place, no inflammatory reaction is seen in the gland at all, and the case is not one of pancreatitis but pancreatic necrosis.

The very acute symptoms observed in these cases is due, they suggest, to the absorption of toxic products of the digestion going on in the gland. Though five of their patients had gall-stones, only one gave a history of biliary colic or jaundice. Three patients had had bad "indigestion" for over a year with or without hematemesis, which made them suspect perforated gastric or duodenal ulcer. In all the cases the condition started suddenly with pain and vomiting, the latter being frequent and copious, as is usually noted. In all the abdomen was rigid and tender; in one case the tenderness was most noticeable in the upper part of the abdomen, and in once case in the left loin. In two cases there was obvious dulness on percussion above the pubes. An extreme degree of collapse was a marked feature in four of the cases. In one case the patient was pulseless at the wrist within twenty-four hours of the onset, and remained so for twenty-four hours after the operation, when she began to improve. Two cases ended fatally within twenty-four hours of the onset of acute symptoms.

12. **Intestinal Obstruction.**—Deanesly emphasizes the following points: Large numbers of patients die every year from intestinal obstruction due entirely to mechanical causes which are remediable by surgical operation and by no other means. The majority of these fatal cases are not operated on until a late stage in the disease, and most of them are in the first instance treated by drugs or applications, internal or external, which cannot possibly give relief. The difficulty of diagnosing the existence of mechanical obstruction is increased by the popular confusion between constipation—that is, temporary suspension of the motor functions of the bowels—and real obstruction—that is, mechanical hindrance at a definite point. The consequences of the latter condition are so serious and so urgent that the question of its existence should be carefully considered in every case of abdominal illness in which pain is associated with vomiting, distention and absence of recent bowel evacuation. If the possibility of obstruction cannot be excluded after a short period of observation, surgical assistance should be obtained as soon as possible. Obstruction of the bowels within the abdomen is just as much a surgical disease as strangulated hernia. The difficulty of the diagnosis in the former merely adds to its dangers, the greatest of which is delay.

16. **Treatment of Tuberculous Peritonitis.**—In two apparently hopeless cases of tuberculous peritonitis in children Lawrie found the administration of the following mixture very beneficial:

		gm. or c.c.		
℞	Calcii carbonatis (precip.)....	8		ʒ ii
	Olei creosoti	2		♏ xxxii
	Mucilaginis tragacanthi q. s.			
	Potassii iodidi	1		gr. xvi
	Saccharini		50	gr. viii
	Olei menthae pip. vel anisi ..		33	♏ v
	Aq. ad	240		℥ viii

Dose.—Two drams every four hours for a child of 5 years.

Tincture of opium or compound tincture of camphor may be added for the relief of pain and diarrhea, if present. The patients were two boys, aged 3 and 5 years, respectively. The younger had large, easily palpable masses in his bulging abdomen, and all the other symptoms well developed. He had been ill for a long time, gradually getting worse, and his parents had been informed that there was little or no hope of recovery. The elder, Lawrie saw eighteen months ago; the intestines and peritoneal glands were matted into one mass about the size of a small football, somewhat irregular in outline, and not only palpable but observable under the abdominal wall. The boy took the mixture, supplemented by petroleum emulsion. A diet of easily digested food, principally of milk, was prescribed.

The first boy who took cod-liver oil emulsion along with the mixture, began at once to improve, and in two months the abdominal tumors had disappeared and his general health vastly improved. There has not been any recurrence, and to-day he is a fine specimen of a strong and healthy boy. The second boy like the first, began to improve directly he came under treatment, and in two months the abdominal mass had shrunk to the size of a tangerine orange, and all the other symptoms, such as fever, pain and diarrhea, disappeared. At the end of another month Lawrie failed to detect any lump at all, and his general condition was much improved. He has continued in good health for over a year, and is a bright and healthy looking lad.

18. **Large Intestine.**—The work of the colon, apart from its use as a storage and expeller of the common refuse, is, so far as Griffiths has been able to discover, (1) to dry the contents as they leave the small intestine, and (2) to get some useful substance out of the refuse while it is mixed and churned and undergoing fermentation with, it may be, disintegration. This substance, though as yet of unknown quality, gives to the body that which it requires for the development of that feeling which is best described as being "in the best of health and spirits"; further, it is something of all important value to the individual. Excess of it is deleterious; lack of it is attended with pronounced changes in general nutrition, and perhaps progressive inanition, leading after a variable time to death from simple loss of vigor and strength.

20. **Traumatic Intramuscular Ossification.**—Traumatic intramuscular ossification ("myositis ossificans"), Morley believes, is due to migration of osteoblasts into adjacent contused muscle and blood-clot, after destruction of the periosteum and loss of its function as a limiting membrane to the growth of bone. It is essentially the same process as callus formation. The condition may be produced experimentally in animals by reproducing the same mechanical conditions by an aseptic open operation. In a case of difficulty in diagnosis from sarcoma, open exploration is advisable. Simple excision is usually, though not invariably, followed by recurrence. Conservative treatment condemns the patient to a long period of disability, which may occasionally be permanent. Excision combined with grafting of deep fascia on to the denuded surface of bone gives the best prospect of rapid and complete recovery, and is urged for all cases not complicated by ossifying periarthritis. Osteoblasts and chondroblasts, Morley says, are the same cells under different conditions of nutrition.

Clinical Journal, London

October 29, XLII, No. 30, pp. 465-480

25 *Inguinal Hernia in Child. H. S. Clogg.
26 Operative Treatment of Fractures. R. Warren.
27 Ruptured Gastric and Duodenal Ulcers. A. Fullerton.

November 5, No. 31, pp. 481-496

28 Some Disturbances of Singing Voice. D. Grant.
29 *Modern Treatment of Heart-Disease in Children. E. Cautley.
30 *Prevention of Mouth-Breathing. W. W. James.
31 Diagnosis of Ureterovaginal and Vesicovaginal Fistulae. A. H. Burgess.

November 12, No. 32, pp. 497-512

32 Differential Diagnosis of Chronic Gastric Disorders. R. Hutchison.
33 Some Disturbances of Singing Voice. D. Grant.
34 Carcinoma Recti. J. A. C. Macewen.

November 19, No. 33, pp. 514-528

35 Few Examples of Grafting. A. Maclennan.
36 Differential Diagnosis of Chronic Gastric Disorders. R. Hutchison.

Nov. 26, No. 34, pp. 529-544

37 Use of Celluloid Splints in Treatment of Acute Cases of Poliomyelitis and Other Nervous Disorders. F. E. Batten.
38 Differential Diagnosis of Chronic Gastric Disorders. R. Hutchison.
39 Purpura. J. G. Taylor.

Dec. 3, No. 35, pp. 545-560

40 Psoriasis. H. G. Adamson.
41 Differential Diagnosis of Chronic Gastric Disorders. R. Hutchison
42 Does Herpes Zoster Ever Occur Traumatically? H. G. Langwill.

25. **Inguinal Hernia in Child.**—Speaking of the truss treatment of inguinal hernia, Clogg says that the processus vaginalis in normal development should be obliterated at or shortly after birth. Peritoneal development goes on after birth. During development certain layers of peritoneum may fuse together and layers of peritoneum may disappear, and such changes in the peritoneum occur during the first few months of life. The processus vaginalis, being originally peritoneum, may disappear, and such changes in the peritoneum occur during the first few months of life. The processus may conceivably, therefore, undergo complete development after birth, i. e., it may become naturally obliterated. Up to what age such obliterative changes may be anticipated is merely a matter of conjecture. Obliterative changes could obviously not take place if the hernia were allowed to descend. The only possible value of a truss, therefore, is in restraining the descent of the hernia and thus allowing Nature to proceed with normal development. A truss may act, therefore, indirectly in the cure of a hernia. As a direct cure it has no value. Its pressure cannot possibly have any influence in forming acquired adhesions in the sac, which may eventually lead to the cavity disappearing, or even in obliterating the patency of the neck of the sac and excluding it from communication with the peritoneal cavity. During the first few months of life Clogg advises a truss, solely with the object of restraining the hernia, and in order that this may be effective it must be worn constantly. He advises this treatment, except in special circumstances, up to about the fourth or sixth month. If a hernia be seen at this age he deems it exceedingly improbable that a natural cure will result, and in the absence of any contra-indications advises operation.

29. **Heart-Disease in Children.**—In all inflammatory cases in which there is the least suspicion of rheumatism, Cautley says, salicylates and alkalies must be prescribed. The patient is kept in bed on a light milk and carbohydrate diet, fruit and vegetable soups being allowed as a change. Complete rest and a trained nurse are necessary. Blistering or counter-irritants may be used, but are chiefly efficacious in pericarditis. Vaccines and serums are of problematic value. In infective endocarditis—fortunately infrequent in children—Cautley's experience with vaccines and serums has proved unsatisfactory. It is difficult to grow the incriminated organism from the blood, difficult to prove that the organism obtained in cultures is the one causing the disease, and difficult to obtain good results from an autogenous vaccine or from a polyvalent serum. Recourse is sometimes had to paracentesis for the relief of pericardial effusion. It is rarely essential in rheumatic pericarditis, for even the largest effusions may be absorbed. For purulent effusions the pericardium must be opened and drained. Another and more modern operation, sometimes called cardiolysis, is resection of the rib cartilages over the cardiac area, for the relief of general adhesion of the pericardium. The treatment of cardiac failure and backward pressure is the same at all ages. For extreme edema of the lower limbs multiple punctures and sterilized dressings are more satisfactory than the insertion of Southey's tubes. Iron and glycerophosphates are given when compensation is established. Compensation is maintained by regulation of the mode of life, diet, sleep, hygiene and exercise. In every case it is essential to recognize the cause and differentiate the type of cardiac disease and clearly to understand its probable course and prognosis.

30. **Prevention of Mouth-Breathing.**—The apparatus used by James consists of a wire frame over which sheet rubber (dental rubberdam) is stretched; it is placed inside the lips and cheeks, resting on the outer surfaces of the teeth and gums. The wires are fitted and soldered together and then struck between a zinc case and a lead die in order to secure an accurate fit. Gold wire is perhaps the best, but German silver, gilded, is quite serviceable. The apparatus should be sufficiently large that it is steady when in position, extending back to the second premolars. No danger exists from swallowing or displacement with an apparatus of this size. The apparatus is worn only at night except perhaps for a few hours in the day in order that the patient may become accustomed to it, or to determine that nasal respiration is possible. In small children the apparatus may be used in the day without any rubber to prevent thumb-sucking—a habit most conducive to mouth-breathing at night when the thumb is withheld. When the apparatus is in position mouth-breathing is quite impossible. There is little difficulty in quickly removing the apparatus if it should be necessary.

Journal of Obstetrics and Gynecology of British Empire, London

October, XXIV, No. 4, 197-248

43 Jointed Obstetric Forceps. A. Doran.
44 *Value of Abderhalden's Test for Pregnancy. H. Williamson.
45 Two Cases of Contraction Ring Complicating Labor. G. G. Alderson.
46 Perithelioma of Uterus. W. F. Shaw.
47 Case of Puerperal Pyemia. A. Donald.
48 Operation for Incontinence of Urine. R. Worrall.

44. **Abderhalden's Test for Pregnancy.**—For experimental purposes the test was applied by Williamson to fifty patients. Of these, twenty women were either in the last three months of pregnancy or had recently been delivered. In each case the

result was positive. Thirty women were not pregnant, in all thirty the reaction was negative. Williamson regards it as established that the serum of pregnant women contains a ferment specific to placental albumen. This ferment can be demonstrated from the eighth week of pregnancy until ten days after delivery. Its presence may be demonstrated by the polarimeter or dialysis. The former method is the more reliable in that the sources of error are fewer. The accurracy of the test depends on the most scrupulous care in details, and it is only in the hands of an expert that the results can be relied on. The ferment is found only when chorionic tissue is present in the body. It is probable that under other conditions the color reactions and optical effects produced by the test may be simulated.

Lancet, London

November 29, II, No. 4709, pp. 1517-1598

49 Development of Our Knowledge of Diseases of Heart. T. W. Griffith.
50 Astrology in Medicine. C. A. Mercier.
51 Leprosy Problem in British Empire. H. Bayon.
52 Tuberculosis of Eye. S. Stephenson.
53 Tuberculous Meningitis (Bovine Infection) in Infant Aged 12 Weeks. G. A. Allan.
54 *Examination of Tuberculous Pleural Fluids. S. R. Gloyne.
55 Free Air Treatment of Skin Grafts. A. R. Jones.
56 Eye Coloration in Relation to Incidence, Severity and Fatality of Scarlet Fever and Diphtheria. A. L. Dykes.

December 6, No. 4710, pp. 1599-1676

57 Value of Clinical Polygraph in Certain Cardiac Disorders. B. Parsons-Smith.
58 Change Occurring in Pelvis in Case of Prepuberal Atrophy of Testicles. H. B. Shaw and R. H. Cooper.
59 Treatment of Yaws by Intramuscular Injections of Salvarsan. R. P. Cockin.
60 Chronic Polyorromenitis (Multiple Serositis) Simulating Intrathoracic Growth. R. G. Hann.
61 Some Causes of Disappointment following Removal of Tonsils and Adenoids. W. Wilson.
62 Perforation of Gastric Ulcers into Heart: Report of Case. F. E. Tylecote.

54. **Examination of Tuberculous Pleural Fluids.**—The finding of tubercle bacilli, Gloyne says, is the only conclusive evidence of tuberculous infection. In his series of twenty-five cases bacilli were found in 40 per cent. of the serous and 71.43 per cent. of the purulent fluids. Ordinary film preparations are satisfactory in purulent fluids, but in serous more careful measures are often necessary. In large effusions without clot sedimentation and centrifugation of the fluid may be sufficient. When present, the examination of clot offers the best hope of finding bacilli. In serous effusions the next best test is the lymphocyte count. Failing this, the tests in order of value are (*a*) protein content (usually 4 to 6 per cent.) and (*b*) specific gravity (about 1.018). Sterility on ordinary culture media is suggestive of tubercle in purulent fluids. It is not of much value in serous exudates, since some other effusions and most transfusions are also sterile. Secondary infection was only noted in one instance.

Sei-I-Kwai Medical Journal, Tokyo

November, XXXII, No. 11, pp. 127-132

63 *Some Experiments on Transplantation of Cancer in Japanese Mouse. S. Higuchi.

63. **Transplantation of Cancer in Japanese Mouse.**—Higuchi discovered a primary cancer in a Japanese mouse which had continued for thirty generations after transplantation. He injected the primary cancer obtained into the subcutaneous tissue of the axilla of 20 Japanese and 9 English mice. Not one of the English mice showed development, but among the Japanese there were 2 with good results. Of these one was absorbed in a few days and only one continued to grow. This is the first generation and in after experiments only the Japanese mouse tumor was used. This tumor was injected into 20 mice and showed 7 positive results by the seventeenth day. These are the third generation and of these one died on the thirty-first day. The tumors of the remaining 6 gradually grew in size and 2 formed ulcers as the result of necrosis. The tumor (third generation) was injected in 21 mice with 9 positive results by the seventeenth day and these are the fourth generation. Of these, many died or were absorbed, and there were only 3 remaining by the thirty-first day. A tumor from the fourth generation was injected into 15 mice with 9 positive results by the seventeenth day (fifth generation) and 5 remained on the thirty-first day.

A tumor of the fifth generation was injected into 31 mice with 9 positive results by the sixteenth day (sixth generation) and only 6 remained on the thirtieth day. A tumor of the sixth generation was injected into 21 mice with 17 positive results by the seventeenth day (seventh generation) and 13 were still alive on the thirty-first day. A tumor of the seventh generation was injected into 20 mice with 7 positive results by the seventeenth day (eighth generation) and 4 remained on the thirty-first day. A tumor of the eighth generation was injected in 21 mice with 9 positive results by the fifteenth day (ninth generation) and 5 remained alive on the twenty-ninth day. A tumor of the ninth generation was injected into 23 mice with 13 positive by the seventeenth day (tenth generation). The total number of mice used for transplantation was 285 in all. The tumor developed by the seventh day in 109 (38.2 per cent.) and by the thirty-first day in 63, (22.2 per cent.).

In looking over the experience of transplantation during one year, the following facts were obtained by Higuchi. This cancerous tumor was inoculated into the English mouse without any development. The injected tumor gradually grew in size until the third generation and then began to decrease, but again grew larger and became remarkably increased in the tenth generation. The highest number growing after injection was in the seventh generation, i. e., 17 out of 21 (81 per cent.). Then the power of development showed some decrease until the tenth generation, but in this period 13 out of 23 (57 per cent.) showed the positive results and seemed to recover the power. When the tumor grew in size the central part became necrosed and formed an ulcer. Higuchi was able to obtain positive results by injecting the tumor six hours after the death of a mouse.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

November, II, No. 11, pp. 305-464

64 The Hysterograph for Automatic Registration of Contractions of Puerperal Uterus. M. Fabre.
65 *Solitary Cyst in Kidney. A. Sarkissiantz.
66 *Conservative Versus Radical Operative Treatment of Ovarian Cysts. J. Vanverts.
67 Indications and Technic for Transfusion of Blood. A. Levant.

65. **Solitary Cyst in the Kidney.**—The cyst was as large as a child's head and encroached so much on the pelvis that it had been diagnosed as an ovarian cyst. Microscopic examination after the removal of the kidney revealed tubercle bacilli. The course of the case at the time and later and the integrity of the other kidney and lungs confirmed the assumption that the case was one of unilateral renal tuberculosis casually discovered and removed in time to eradicate the disease from the system.

66. **Conservative or Radical Operative Treatment of Ovarian Cysts.**—Vanverts has never had occasion to regret having left the sound mate in his seventeen cases of cystic disease of one ovary. In fourteen other cases he removed the second ovary and the uterus on account of pathologic conditions in the latter or in the tubes. In one of the cases in the first group he removed the cystic and much degenerated ovary and then cut out from the second ovary the part containing a cyst, leaving the rest intact. The woman has passed through a normal pregnancy since, and mother and child are thriving.

Bulletin de l'Académie de Médecine, Paris

November 18, LXXVII, No. 36, pp. 397-444

68 Nodose Erythema and Tubercle Bacilli in the Blood Stream. L. Landouzy.
69 *Decompressive Trephining on Sound Side in Certain Cases of Cerebral Hemorrhage. P. Marie.
70 Technic for Complete Destruction of the Viscera in Examining for Mineral Poisons. P. Breteau.
71 *Emetin in Ameba Dysentery or Liver Abscess. Dopter.

69. **Decompressive Trephining on Sound Side for Cerebral Hemorrhage.**—Marie reiterates that the apoplectic stroke is comparatively transient as it is due to sudden irruption of blood into the brain. Coma, on the other hand, is the result of pressure on the brain by the blood, and this is permanent unless relief from the pressure is obtained in some way. Profound and persisting coma indicates that both hemispheres of the brain are suffering from compression. If only one hemisphere is affected, the unconsciousness is not so profound. In addition to the compression of the brain by the extravasated

blood, there may be more or less edema from the irritation. For these and other reasons a decompressive operation is indicated, but Marie insists that the trephining should be done on the sound side in certain cases, as this reduces to the minimum the dangers from the operation for the focus of the hemorrhage and the danger of irruption of the blood into the meninges. He warns against any operation of the kind on the elderly on account of possible bronchopulmonary complications. Pronounced albuminuria or profound coma from the start also contra-indicates mere trephining. It is required, however, with apoplexy and conjugated deviation of the head and eyes, when the patient is able to reply with some degree of coherence to questions and no improvement is apparent in twenty-four or forty-eight hours and the breathing suggests the Cheyne-Stokes type and the temperature has gone up a little. All this shows that the pressure on the brain is increasing and that coma is imminent. Prompt trephining of the sound side is the logical treatment, and the results were most excellent in his four cases in which treatment was applied on this principle.

71. **Emetin in Treatment of Ameba Disease.**—Dopter's experience in fifty-one cases has confirmed the invariable destructive action of emetin on the ameba at large, but it seems powerless to affect the encysted specimens. Hence it does not protect against relapses, but the emetin promptly cures the relapse.

Journal de Chirurgie, Paris

November, XI, No. 5, pp. 533-692

72 Incision in the Duodenum with Stone in Common Bile Duct. (De la duodénotomie dans la lithiase du cholédoque.) A. Gosset.
73 Technic for Laminectomy. P. Lecène.
74 Characteristics of Wounds from the Modern Small Bullets. (Les caractéristiques des blessures de guerre par projectiles de petit calibre d'après les enseignements des guerres récentes.) H. Billet.

Journal de Médecine de Bordeaux

November 9, LXXXIV, No. 45, pp. 719-730

75 Radiotherapy in Gynecology. Spéder.
76 Abbott's Method of Treating Curvature of the Spine. J. Lalesque, Jr.

November 16, No. 46, pp. 731-748

77 Occupational Affections and Proposed Legislation. (La loi en discussion sur les maladies professionelles.) H. Verger and P. Lande.

November 23, No. 47, pp. 749-762

78 Operate for Adenoids at Any Age if They Cause Serious Disturbance; If Not, Wait Till the Age of 3. Brindel and J. R. Cells.

Revue Médicale de la Suisse Romande, Geneva

November, XXXIII, No. 11, pp. 793-872

79 *Examination and Testing the Functioning of the Internal Ear. (Exploration clinique du labyrinthe.) H. Jollat. Commenced in No. 10.
80 Pleural Effusion Complicating Therapeutic Pneumothorax. Tecon and Sillig.
81 Renal Tuberculosis Assuming the Form of Lithiasis. C. Perrier.

79. **Exploration of the Internal Ear.**—Joliat reviews in detail the methods of examination at our disposal for testing the functions of the labyrinth, especially those connected with maintaining one's balance, the static function. Disturbances in hearing will locate the trouble if direct visual inspection of the ear reveals nothing. Derangement of the transmitting apparatus raises the lower threshold of the hearing, the bone perception is prolonged and longer than air perception. Derangement of the perceiving apparatus lowers the upper threshold of hearing and causes gaps in the field of hearing, bone perception is shortened and air perception, although shortened, is yet longer than bone perception. If there are subjective sounds in the ear they are more musical and continuous than with deranged transmission. Tests inducing nystagmus will show the condition of the static function and help to distinguish between suppuration in the labyrinth and in the cerebellum. With the latter, spontaneous nystagmus is not influenced by cold water in either ear or turning around or hot water tests. There is no connection between the nystagmus and the falling with eyes shut or deviating in walking. On the other hand, the patient has headache, especially in the morning, the neck is stiff, there is a tendency to choked disk, somnolency, severe dizziness and vomiting and the general condition is impaired much more than with any labyrinth disease. The differentiation is rendered complete by an inability to associate simple movements, especially those in opposite directions, and by the tendency for the limbs to retain any position in which they may be placed. As an abscess in the cerebellum is generally secondary to labyrinthitis, examination along these lines will reveal the extent of the lesion. Spontaneous nystagmus from a cerebellar affection does not change its direction or subside when cold water is injected into the ear on the side toward which the nystagmus is directed. When a change is observed the nystagmus is of labyrinth origin. The technics for the various tests are described in dètail.

Revue Mens. de Gynécologie, d'Obstêtrique et de Pédiatrie, Paris

October, VIII, No. 10, pp. 577-640

*82 *Twin Pregnancy. (Le pronostic de la grossesse et de l'accouchement lorsque l'utérus contient 2 jumeaux.) L. Demelin.*
83 *Serotherapy in Pregnancy Toxic Conditions. P. Gaifami.
84 Extra-Uterine Pregnancy. P. C. Dagneau.

82. **Twin Pregnancy.**—Demelin relates that in 100 twin pregnancies seventy of the 200 children died; all but eleven of those who died were born long before term. The pregnancy was carried to term in only thirty-six cases; abortion occurred in fifteen. The uterus being abnormally distended by the two fetuses is more sensitive to irritation from within and without and consequently it is wisest for the woman to keep in bed when a twin pregnancy is diagnosed beyond question. Twins from a single ovum are less liable to thrive than when each has its placenta, other things being equal. Breech presentation is unusually frequent among twins while it is more serious for them on account of the common debility of a twin fetus while the uterus is more inclined to inertia. The first twin usually suffers most from the birth traumatism as it is cramped in its movements. The two heads locking together in the small pelvis is an extremely rare occurrence. The delivery generally proceeds unusually easy for the woman, but there is a greater tendency to albuminuria and other pregnancy toxic conditions; up to 13 per cent. in his cases. Puerperal complications seem to assume a severe type after twin births, the greater inertia of the uterus and the extra large area of placenta surface and the extra toxic condition in general reduce the resisting power. The great danger is hemorrhage; it is liable to be excessive and the obstetrician's efforts should be directed with special care to prevent this. The main point is to refrain from hastening the delivery of the second twin; the uterus needs time to recuperate from the effort of expelling the first twin. If this resting period is interrupted too soon, the muscular wall will be unable to retract and the blood will flow indefinitely. The spontaneous reappearance of labor pains must be patiently awaited, even though one or two hours or several hours up to several days may elapse. The position of the remaining twin must be supervised and kept favorable for presentation, possibly having a bandage worn until labor starts up anew.

83. **Serotherapy in Toxic Conditions of Pregnancy.**—Gaifami has applied serotherapy in twenty cases of pregnancy toxicosis and states that dermatoses and pruritus in pregnant women were cured in every instance by the serotherapy. The effect was usually favorable also in the uncontrollable vomiting of pregnancy. The results were actually brilliant in his two cases of pregnancy pernicious anemia. The benefit was less constant and striking in albuminuria. The serum from another pregnant woman seems the most effectual form of serotherapy, and all the experiences to date have confirmed the harmlessness of the method.

Semaine Médicale, Paris

November 26, XXXIII, No. 48, pp. 565-576

85 *Errors in Diagnosis of Gall-Stone Disease. F. Lejars.

85. **Errors in the Diagnosis of Gall-Stone Disease.**—Lejars refers merely to old chronic disorders in which either cholelithiasis was erroneously *assumed* or true cholelithiasis was mistaken *for something* else; he reports a number

of instructive cases of each In one, a man of 53 had long had symptoms typical of gall-stones but operation revealed a small cancer on the outside of the lesser curvature of the stomach In other cases old perigastritis with adhesions may cause symptoms typical of gall stone disease, including an apparent tumor in the gall bladder region This perigastritis and the resulting masses simulating a tumor are generally on the left side, and the mass is not so sharply defined, and the edges are more irregular than with a swollen gall bladder Cirrhosis of the liver may develop with colic pains, jaundice and tenderness in the gall bladder region In one such case recently in a woman of 39 the operation revealed the gall-bladder normal, the liver yellowish, knobby and soft He found the gall bladder and ducts also normal in another case in which the laparotomy for recurring "colics" disclosed merely the acute congestion in the liver to which Ortner has recently called attention (See THE JOURNAL, Nov 1, 1913, p 1670)

In another case of true cholelithiasis he found the bile apparatus entirely free from stones at the operation, the very last one of the concrements had probably just been expelled In three recent cases the typical gall bladder colic was caused by simple cholecystitis and there were no concrements, complete recovery followed cholecystectomy. An echinococcus cyst outside the gall bladder or a gumma in this locality may also simulate gall stone trouble, he has operated in two cases of the former In another case a large tumor in the gall bladder region was not accompanied by gall stone symptoms proportional to the size of the tumor, which reached to the umbilicus The Wassermann reaction was negative, but the trouble proved to be a gummatous tumor on the front of the liver The Wassermann test applied later was positive If the possibility of something besides gall stone disease occurs to one, some little anomaly in shape or size will suggest that the case is *not one of ordinary* cholelithiasis Persevering examination of the stool revealing stones or gravel may clear up the diagnosis in dubious cases In any event, the safest rule is to operate

Archiv fur Kinderheilkunde, Stuttgart

LXII (?), Nos 1 2, pp 1 158 Last indexed April 5, 1913, p 1113

86 Relations between Favus in Man and Animals (Zur Kenntnis der Beziehung zwischen Achorion Schoenleini und Achorion Quinckeanum) M K Wolf
87 Etiology of Orthostatic Albuminuria with Special Regard to Tuberculosis F Wendenburg
88 Acute Staphylococcus Spondylitis F Reve
89 Pseudomembranous Colitis in Children E Steinschneider
90 Ascarides in Children (Haufigkeit Diagnose und neuere Behandlung der Spulwurmkrankheit bei Kindern) A Lechler and H Plew
91 Congenital Dropsy (Angeborene Wassersucht) O Fleischmann and S Wolff
92 Anomalous Scarlet Fever Exanthem J A Schabad

Beitrage zur klinischen Chirurgie, Tubingen

October, LXXXVII, No 1, pp 1 316

93 *Ultimate Results of Treatment of Tuberculous Spondylitis and Joint Tuberculosis, 1,275 Cases C Garrè
94 *Treatment of Hip Joint Tuberculosis and Results, 261 Cases A Nussbaum
95 *Treatment of Knee Tuberculosis and Results, 454 Cases H Els
96 Treatment of Ankle Tuberculosis and Results, 222 Cases Syring
97 *Treatment of Shoulder, Elbow and Wrist Tuberculosis and Results, 145 Cases S Leonhard
98 *Course and Outcome of Tuberculous Spondylitis, 202 Cases O Seemann
99 *Roentgen Therapy of Surgical Tuberculosis, 41 Cases H Frund
100 Experimental Direct Medication of the Lung (Einspritzungen ins Lungenparenchym) T Hirano
101 Fascia Flaps to Close Defects in Thorax Wall and Reenforce Suture of Lung T Hirano
102 Experimental Research on the Healing of a Wound in a Joint (Regeneration der Synovialmembran und der Gelenkkapsel) C Segale

93 98 Surgical Tuberculosis—The methods of treatment applied in Garrè's service at Bonn are described in detail for each class of cases, with the ultimate outcome in all the patients that could be traced to date He warns against the danger of focusing the attention too exclusively on the local trouble and forgetting the importance of general treatment ' This surpasses in importance everything else, regardless of whether operative or conservative measures are applied. In 233 cases of tuberculous spondylitis in the last seventeen years the mortality among the 182 patients that have been traced to date has been 50 per cent for the men and boys and 57 per cent for women and girls, 34 and 38 per cent are cured and 9 and 12 per cent still have something left of their old trouble, among those under observation for at least five years Of those traced for twelve years whose spondylitis began under the age of 10, 40 per cent have died and 10 per cent are uncured, 50 per cent have recovered The course of spondylitis seems to be more malignant in boys, 50 per cent have died of the males developing vertebral caries between 10 and 20 and only 25 per cent seem to be cured at present None has survived of the males acquiring the disease between 15 and 30, injury at work explains this speedy mortality The mortality is highest among women during child bearing age. The duration of the persisting disease ranged from three months to twenty eight years, the average about four years

Trauma, especially in boys, is an important factor and the cases with a history of typhoid have a specially unfavorable prognosis When the tuberculous process is in the upper cervical vertebrae the outcome is speedily fatal in 50 per cent of the cases, while the chances are much better when it is located at the junction of the dorsal and lumbar vertebrae An abscess renders the outlook graver, a fistula is still more serious Operations liable to entail a fistula are, therefore, contra indicated Nervous complications in the elderly generally prove fatal early and render the outlook graver in all cases, but in children the paraplegia is amenable to orthopedic measures Abscesses and paralysis from spondylitis are more common in males Tuberculous complications elsewhere are generally responsible for the fatal outcome; in less than half the cases was the spinal disease the direct or indirect cause of death

99 Roentgen Therapy of Surgical Tuberculosis—Frund relates that five patients were cured and three showed no improvement in a group of eight given mild Roentgen ray exposures for a bone or joint tuberculous lesion On the other hand, only two were benefited out of ten given intensive Roentgen therapy. This treatment was applied in seventy one cases in all, and certain phenomena observed suggest that the tubercle bacilli in some towns are more resistant than in others This seems to be the only explanation of the fact that the same treatment failed so frequently at Bonn, while it gave almost constantly good results at other places with the same technic and roentgenologist

Correspondenz-Blatt fur Schweizer Aerzte, Basel

XLIII, Nos 45 47, pp 1409 1568 H Sahli Festnummern

103 Retention of Salt in Kidney and Heart Disease and in Pneumonia (Ueber die Frage der Kochsalzretention bei Nephritis Herzkranken und Pneumonie und uber die Enstehung der Oedeme) I Hoft
104 Pathology of Herpes Zoster W Kürsteiner
105 Influence of Quinin and Salicylates on the Guinea Pig s Organ of Hearing W Lindt
106 Tests of Cerebellum Functioning (Zur Adiadochokinese und zu den Funktionen des Kleinhirns) F Lotmar
107 Cancer of the Thyroid (Karzinom der Schilddruse mit exzessiver spezifischer Drusenfunktion) Meyer Hurlimann and A Oswald
108 Residual Nitrogen in the Blood in Kidney Disease (Wert der Bestimmung des Reststickstoffs im Blute bei Nierenkranken) L Michaud
109 Lead Poisoning (Zur Kenntnis der Bleivergiftung mit bes Berucksichtigung des Wertes der Symptome) O Nageli
110 Blood Findings in Small Pox and Vaccinia M Schatzmann
111 Diagnosis of Stomach Disease (Zur Magendiagnostik an der Hand von 109 Fallen untersucht mit dem modifizierten Gluzinski Verfahren) F Rusca
112 *Case of Acute Atony of the Stomach V Schlaepfer
113 Determination of Albumin by the Refractometer G Schorer
114 *Pernicious Anemia in Pregnancy and the Puerperium A Schüpbach
115 Family Predisposition or Immunity to Diphtheria W Spirig

112 Acute Atony of the Stomach—The acute atony and dilatation of the stomach occurred just after the patient had taken a large dose of castor oil Several liters of fluid were found in the stomach but the patient had not drunk any unusual amount of fluid There was probably excessive secretion of fluid into the stomach, a nervous gastrosuccorrhea superposed on the atony The Roentgen test findings in two convalescents and a healthy man all drinking from 1 to 2½ liters of beer showed that mere overloading does not entail dilatation of the stomach, it may stretch and sag but there are no atony and dilatation For this, some degree of paralysis of the stomach musculature is necessary

114 Pernicious Anemia in Pregnancy and the Puerperium — Schupbach declares that the prognosis of pernicious anemia developing during pregnancy or the puerperium differs from that of pernicious anemia in general, as recovery is possible under arsenic and evacuation of the uterus, spontaneous or induced Nageli has reported complete recovery for eleven years to date in two cases and for five years in another case Two of his patients bore other children later with no return of the anemia The results of recent research suggest that the anemia is due to deficient production of antihemolysins, this assumption is confirmed by the fact that the fetus never seems to suffer from the anemia The mortality is high among the children simply because anemia brings premature delivery Schupbach reports two cases, one in a woman of 25 pregnant for the fourth time During her last pregnancy she had had transient nephritis and the symptoms of the pernicious anemia were ascribed to recurring nephritis at first and thus time was wasted before premature delivery was induced, then too late to save The fetus was well developed, the blood supply was good both in quality and quantity Schupbach knows of no other published report in regard to the findings in the fetus of a mother dying of pernicious anemia Her sister had died a few years before from pernicious anemia The second patient also succumbed not long after delivery induced at the eighth month She had passed through eight pregnancies in eight years, with nine children, and was too weak to rally

Deutsche medizinische Wochenschrift, Berlin

November 20, XXXIX, No 47, pp 2281-2328

116 *Treatment of Severe Acute Anemia (Behandlung akut bedrohlicher Erkrankungen I) Grober
117 *Meningitis Following Tonsillitis E Siemerling
118 Radium Therapy of Cancer (Gegenwartiger Stand der Radiumtherapie bosartiger Geschwulste) E Schlesinger
119 Experimental Mesothorium Injury of Testicle (Ueber Mesothoriumschadigung des Hodens) M Simmonds
120 Paratyphoid Bacilli Causal Agent of Distemper in Dogs (Ueber den Erreger der Hundestaupe) O R v Wunscheim
121 *Tuberculosis of the Bladder with Intact Kidneys (Ungewohnlicher Fall von Tuberkulose des Harnapparats) J Israel
122 *Clamping the Parametrium to Arrest Obstetric Hemorrhage (Zur Blutstillung in der Nachgeburtszeit und nach Ausstossung der Plazenta) R Zimmermann
123 Cure of Exophthalmic Goiter under Feeding with Milk from Thyroidectomized Sister Pychlau
124 Rachitis of the Nose and Its Relation to Asthma Walb
125 Permanent Depilation under Roentgen Treatment D Chilaiditi

116 Severe Acute Anemia —Grober compares acute anemia to albuminuria—both are merely symptoms, and he warns that the exsanguinated appearance may be misleading Only examination of the blood for the proportion of reds and pigment will show whether the trouble is actually anemia or merely the driving in of the blood from the periphery With true anemia the patient is restless, possibly delirious, from the lack of oxygen in the blood, and he gasps for air, the pulse is rapid, small and not quite regular, and systolic anemic murmurs are audible at the apex and pulmonary valve To relieve the sensation of suffocation is the first task, and this can be done by supplying oxygen or by deadening with narcotics the respiration centers Nature attends to the latter by the narcotic action of the carbon dioxid in the blood, any attempt to reenforce this with drugs should be very cautiously done as serious injury may result if the functioning of these centers is permanently reduced In acute anemia it is better to give the oxygen diluted with one half or one third air Relief is usually apparent at once, although when the hemoglobin is already saturated with oxygen it cannot take up any more It is possible, however, that the recently formed red corpuscles in the blood producing organs may be enticed out into the blood stream by their affinity for the oxygen Whatever the theory may be, the unmistakable benefit in certain cases compels us to use oxygen in the dyspneic phase of acute anemia even although it fails to relieve in a certain proportion of cases

The patient gasping for breath often rises up in bed, but this must be prevented on account of increasing the danger from the anemia for the brain He must be kept horizontal or the head lower than the plane of the body This relieves the symptoms from the anemia in the brain, consciousness returns and convulsions cease, but the sensation of suffocation returns and brings the patient up again, his rapid breathing showing how he is starving for air This vicious circle keeps up, often to end in stupor or death unless the patient is quieted with morphin or other narcotic The dose must be small on account of the weakened condition This relieves the suffocation, tranquilizes and gains time for the body to make new blood The artificial means at our disposal for improving the condition in regard to the blood are few and unreliable and fraught with some danger The acute anemia itself is the most powerful of all stimulants for new production of blood provided the blood producing organs are healthy. This is usually the case in anemia from hemorrhage but not with hemolytic and pernicious anemia

For the same reason, transfusion of defibrinated blood seldom gives good results in hemolytic and pernicious anemia while in acute anemia from other causes it is borne well and has proved very useful in Grober's experience Weber's method of repeated transfusion of only 5 or 10 c c blood seems to supply an extra stimulus for production of new blood Autotransfusion may also prove useful, that is, bandaging the limbs from the periphery upward to drive the blood back into the trunk where it is more needed than in the extremities He witnessed great benefit from this in one case of severe intestinal hemorrhage Saline infusion answers about the same purpose, filling the vessels with fluid If physiologic salt solution is not at hand, boiled water can be used, but not distilled water Drop infusion by the rectum can be easily arranged while the patient is still under the influence of the sedative The heart action must be kept good, this may require hot brandy, rum, coffee or flat champagne, or subcutaneous injections of camphor and caffein every hour or half hour, epinephrin in small doses The stomach cannot be depended on and consequently it is useless to give drugs by the mouth, digitalis may fail even by intravenous injection The patient must be kept warm in bed; a prolonged warm bath is often soothing and refreshing Among the local measures to arrest bleeding from a large surface are tamponing with ferric chlorid, gelatin and epinephrin, subcutaneous injection of 40 or 50 c c of a 10 per cent gelatin solution, or injection of 5, 10 or 20 c c of animal or human serum Von den Velden advocates intravenous injection of 3 or 5 c c of a 10 per cent solution of salt, eventually repeated a few times at one or two hour intervals Fresh animal tissue contains large amounts of thrombokinase, so it might prove useful in gastric hemorrhage, given in the form of an infusion of calf's liver An old empiric treatment is to lay a piece of fresh meat on a bleeding surface

117 Meningitis Following Tonsillitis —Siemerling's patient was a boy of 15 and the meningitis developed in connection with a febrile sore throat—a retronasal angina seems to be a regular accompaniment of epidemic meningitis There were two days of headache in this case with a little dizziness and tremor of the hands and then the lad dropped unconscious, delirium alternating with stupor, with other symptoms of severe meningitis Striking benefit followed lumbar puncture which showed the fluid under high pressure The clinical picture was extremely severe but terminated in recovery after nearly two months The fluid contained 300 lymphocytes in 2 c c The fifth week a month's course of mercurial inunctions was commenced using up 63 gm grey ointment. Quincke has called attention to the benefit from mercurial inunctions in serous meningitis

121 Tuberculosis of the Bladder with Intact Kidneys.—Israel's patient was a girl of 22 and the course of the case showed that a tuberculous process in one fallopian tube had spread to involve the bladder After removal of the diseased tube the bladder process healed

122. **Obstetric Hemostasis.**—Zimmerman reports invariable success in arresting hemorrhage after delivery by applying clamps to the parametrium. This stopped all hemorrhage at once even in his five cases of placenta praevia and also with hemorrhage from atony of the uterus. The mouth of the uterus is drawn down to the vulva and the parametrium stretched by pulling to one side and then to the other. Muzeux forceps are introduced along the side and pushed upward close to the side of the vagina and uterus, pushing the vaginal mucosa before the open blades. They are then clamped together, the teeth gripping in the uterus musculature. This is done on both sides and the clamps are left in place for twenty-four hours When they are to be removed the blades are first unlocked for half an hour to see if there is any hemorrhage before removing them altogether. He says that with care to avoid the bladder, this technic is free from danger while it is one of the most effectual means for immediate arrest of serious hemorrhage in threatening cases, especially when the obstetrician has no one to help him. As the procedure naturally is more or less painful, it will be used only after the failure of other measures

Deutsche Zeitschrift für Chirurgie, Leipsic

October, CXXV, Nos 3 4, pp 211 412

126 General Anesthesia with Pantopon and Scopolamin E Burgi
127 Oxygen Epinephrin Spray in Treatment of Postoperative and Other Catarrhal Complications F Demmer
128 *Cancer of the Testicle (Zur Kenntnis der malignen Hodentumoren) V Sakaguchi
129 *Shriveling of Lung Induced by Ligation of Branches of Pulmonary Artery and Its Influence on Pulmonary Tuberculosis (Kunstliche Erzeugung von Lungenschrumpfung durch Unterbindung der Pulmonalarterienaste) K Kawamura
130 Technic for Effectual Flushing of Entire Cerebrospinal Subdural Space F Orsos
131 Treatment of Dislocation of the Humerus with Fracture of Its Head F Cahen
132 Warning That Fascia Grafts Are Liable to Shrink (Ueber die Schrumpfung der frei transplantierten Fascie und Bedeutung derselben bei plastischen Operationen und bei Umschnurung des Darmes Experimentelle Untersuchungen) K Kolb

128 **Cancer of the Testicle.**—Sakaguchi describes in detail twenty three specimens of cancer of the testicle encountered at the Gottingen pathology institute He reports in addition nine cases in Japan Two of the patients were children of 2½ and 5 and the malignant disease ran a rapid course. The large-celled tumors of epithelial origin formed twenty three of the total thirty two, and the patients were generally between 40 and 60, there was a history of trauma in four cases, but the testicles were in their normal location in all but one instance.

129 **Ligation of Pulmonary Artery in Treatment of Tuberculosis.**—Kawamura reports the end results after ligation of branches of the pulmonary artery in dogs and rabbits, some healthy, some previously infected with tuberculosis In the lobe of the lung thus shut off from the circulation there was great proliferation of the connective tissue and the lobe shriveled and shrank Tuberculous processes in the lobe involved became encapsulated with connective tissue, and there was calcification and scarcely any tubercle bacilli were to be discovered. There were no signs of a hemorrhagic infarct. The method seems applicable for clinical cases provided the tuberculosis is restricted to one lobe and the rest of the lung is sound.

Jahrbuch für Kinderheilkunde, Berlin

November, LXXVIII, No 5, pp 497 652

133 Scarlet Fever and Angina Due to Alimentary Anaphylaxis [illegible] ...d Ueberempfindlichkeitsie... [illegible]
134 A [illegible] of Minerals, in Infancy H. Gifthorn
135 *Serum Sickness, 683 Cases L Axenow

135 **Serum Sickness.**—The 683 cases reported were observed at the children's hospital in St. Petersburg and all followed the treatment of scarlet fever with Moser's serum. In the course of seven and one-half years this form of serotherapy was applied in 1,200 cases, and serum sickness followed in 57 per cent. of them, not counting those who died too early for serum sickness to have appeared. It was much more frequent in children under 5 years of age than in older ones. There were twenty-one deaths (3 per cent) due to serum sickness alone. There were thirty-seven others in which besides the serum sickness there were other complications of scarlet fever, making the mortality 8.5 per cent. The serum sickness increases the severity of the complications. Serum treatment for scarlet fever should, therefore, be used very cautiously and only in the severest cases. The symptoms are fever, enlargement of lymph-nodes, joint affections, edema, urticaria and albuminuria. The measures applied in prophylaxis were without result.

Medizinische Klinik, Berlin

November 23, IX, No 47, pp. 1921 1964

136 Evolution and Present Status of Treatment of Wounds G. Magnus
137 Familial Adiposis Dolorosa. O. Klieneberger.
138 Collective Inquiry in Regard to Subcutaneous Tuberculin Reaction A Fraenkel and Others
139 Diet at Spas G Linossier
140 Hot-Air Jet. (Zur Anwendung der Heissluftdusche.) O. Schiftan.
141 Balsamics in Tuberculosis. Berliner
142 Infection and Natural Immunity of Vitreous Body. R. Salus.

Monatsschrift für Geburtshülfe und Gynakologie, Berlin

November, XXXVIII, No 5, pp 503-624

143 Radium and Mesothorium in the Treatment of Cancer of Uterine Cervix F. Schauta
144 Ovarian and Parovarian Tumors R Ehler
145 Alexander Adams Operation. Mendes de Leon
146 *Nitrous Oxid and Oxygen Anesthesia (Klinisch experimentelle Versuche mit Lachgas Sauerstoffnarkose) E Zweifel.
147 *Eugenic Indications in Gynecology. M. Hirsch.

146. **Nitrous Oxid and Oxygen Anesthesia.**—Zweifel reviews the literature on nitrous oxid anesthesia and from experimental work and forty clinical cases reaches the conclusion that short operations can be performed painlessly with nitrous oxid, either alone or in combination with oxygen. With or without oxygen it is also adapted for the beginning of chloroform ether anesthesia. The anesthesia may be deepened by giving a sedative the evening before, and again just before the operation. This combination permits the use of this form of anesthesia in a much wider range of cases. He declares that it is the least objectionable form of anesthesia for the patient. There is no feeling of suffocation and hardly ever any excitement or vomiting. It is the least dangerous to life of any anesthetic If the anesthesia is not deep enough, chloroform or ether can be given at any time without injury to the patient.

147. **Eugenic Indications in Gynecology.**—Hirsch believes firmly that the physician, particularly the gynecologist, should take into consideration, not only the welfare of the patient but that of the race, and that reproduction should be prevented by permanent sterilization in diseases that are almost certain to leave bad effects on the children, such as epilepsy, chronic mental diseases, imbecility, chronic alcoholism and morphinism, degenerative forms of neurasthenia and hysteria, advanced stages of tuberculosis, severe forms of exophthalmic goiter and chorea, severe constitutional syphilis and pernicious anemia. In disease where inheritance is uncertain or recovery is possible, he advocates that means for temporary prevention of conception should be taught, declaring that the physician should be a leader in bringing public opinion and the law to an acceptance of such measures as are necessary to protect the race from disease, insanity, prostitution and criminality, for these latter are due to inherited physical or mental defects.

Wiener klinische Wochenschrift, Vienna

November 13, XXVI, No. 46, pp 1881-1924

148 *Psychic Depression H Kahane
149 *Resection of the Knee (Exstirpation des Kniegelenkes) H. Riedl
150 Treatment of Syphilis S Grosz, R Volk, W. Keil and O. Sachs
151 Invisible Primary Lesion in Syphilis (Ueber okkulte Primaraffekte) L Spitzer
152 *The Secondary Rays in Roentgen Therapy. (Zur Frage der Sekundarstrahlentherapie) G. Schwarz
153 History of Urologic Diagnosis. (Zur Entwicklung der klinischen *Harndiagnostik*) E. Ebstein.

148 **Psychic Depression.**—Kahane discusses various points in psychotherapy, emphasizing that mere persisting worry or anger is liable alone to bring on neuralgia or stomach or intestinal trouble—this seems reasonable when we reflect that intense hyperemia of the skin, that is, a deep blush, may follow a mere spoken word, a fright may induce the most violent contraction of the vessels, driving the blood away from the surface, while expectancy may cause the heart to beat faster and modify the respiration rate. These familiar facts render plausible the assumption that chronic emotional stress may by summation induce complex somatic consequences. The possibility that neuralgia and atony of the stomach or bowel may occur solely as the result of chronic emotional stress amply explains the cure in many such cases by psychotherapy according to Dubois' system.

Kahane deplores the miscredit brought on psychotherapy as a whole by the new school which drags the erotic so prominently into the foreground. He insists that the sexual instinct is nothing more than a subordinate feature of the general instinct for self preservation. Especially with women, the future support, food and shelter, are inextricably bound up in the sentiment of love. In man the erotic flame soon dies down and the comfort of the family table, regular habits, and the warm quiet home—all these are consciously or subconsciously blended in the love passion. Kahane remarks that the overemphasis placed on the erotic in art and literature renders everything that comes from scientific circles bearing on the erotic extremely interesting to the lay public and gives it wide appeal, but, in actual fact, it may safely be asserted that the sexual impulse has no greater sphere in the psyche than the sexual apparatus has in the physical body. Persons who commit suicide under erotic influences are generally those who have failed to make a place in the world, their unfortunate love affair is only the wind up of a general failure. On the whole he advises physicians to refrain from discussing sexual matters as in nothing else does suggestion work so rapidly and with such serious consequences as here. Worry and disappointment are the essential causes of psychic depression, and psychologic treatment with patience and sympathy brings a rich harvest of success.

149 **Resection of the Knee.**—Riedl gives an illustrated description of extracapsular removal of the knee joint as he has applied it to seven men and four women between 19 and 60. Fixation with horn pegs gave the best results, they healed in place without reaction. He generally used three, from 7.5 to 10 cm long and 0.4 to 1 cm thick.

152 **The Secondary Rays in Roentgen Therapy.**—Schwarz exposed peas to the Roentgen rays, five peas in each of four watch glasses. Two of the glasses were filled with water, the other two with water containing a little of a silver salt solution, and they were all exposed to the Roentgen rays for thirty minutes. The peas were then planted and the growth of the seedlings showed that the secondary rays generated by the silver solution in the water had enhanced the action of the Roentgen rays so that growth was much inhibited.

Zeitschrift fur Geburtshulfe und Gynakologie, Stuttgart

LXXIV, Nos. 2-3, pp. 541-1052. Last indexed Vol. 8, p. 1758

154 *The Wassermann Reaction in the Retroplacental Blood and in Blood from the Umbilical Vein. R. Krukenberg.
155 Bacteriologic Research in Febrile Abortions. P. Werner.
156 *Physiology and Technic for Breast Feeding of the Newly Born. (Natürliche Ernährung des Neugeborenen.) R. T. Jaschke.
157 The Metabolism During Pregnancy, Experimental Research. (Studien uber den Stoffhaushalt in der Graviditat nach experimentellen Untersuchungen des Verhaltens trachtiger Tiere und ihrer Fruchte bei eisenreicher und eisenarmer Ernahrung.) M. Fetzer.
158 Pubic or Sacral Occipital Presentation, Three Cases. (Drei Falle von hohem Geradstand.) W. Nacke.
159 *Sepsis and Pyemia. W. Nacke.
160 Experimental Glycosuria in Pregnant and Non Pregnant Women. I. Jaeger.
161 Clinical and Histologic Aspects of Chorio Epithelioma. F. Heimann.
162 Vaginal Cysts. (Sogenannte Scheidencysten.) H. Kuster.
163 Sarcoma in Both Ovary and Intestine. W. Weibel.
164 *The Declining Birth Rate. (Statistische Beitrage zum Gebur
utschland.) R. Schaeffer.
165 * Following Spinal Anesthesia. J. Senge.
166 * the Basel Maternity. (Behandlung der Geburt bei engem Becken in Basel.) F. Cuny.
167 *Fatalities Following Gynecologic Operations at Basel, 1901-1911. E. Loliger.
168 Lipoid Chemistry of the Blood in Pregnancy, Amenorrhea and Eclampsia. W. Lindemann.
169 The Position of the Diaphragm and Heart in Late Months of Pregnancy. (Herz und Zwerchfellstand wahrend der Schwangerschaft.) T. Heynemann.
170 Innervation of the Uterus and Vagina. J. J. Falk.
171 *Pregnancy in Art. (Schwangerschaft in der Kunst.) C. H. Stratz.
172 Mummified Fetus. (Foetus papyraceus.) C. H. Stratz.
173 *Influence of Flat Shape of Pelvis on Delivery in Normal Head Presentation. (Einfluss des platten Beckens auf die Geburt in normaler Schadellage.) P. Esch.
174 Defective Bone Growth in Mother and Child. (Osteogenesis imperfecta bei Mutter und Kind.) E. Zurhelle.

154 **Blood from Umbilical Vein Can Be Used for Wassermann Test under Certain Restrictions.**—Krukenberg tested by the Wassermann technic the retroplacental blood, blood from the umbilical vein and blood from the mother's arm in 121 normal and eighty two pathologic maternity cases. He found that the retroplacental blood is liable to give a positive Wassermann reaction even when syphilis is entirely out of the question, hence it cannot be used as a test for syphilis. The umbilical vein blood on the other hand gave a positive response only in case of inherited syphilis. A negative response, however, does not exclude syphilis acquired during birth, and does not positively exclude latent inherited syphilis. The blood from the umbilical vein will thus be found useful for diagnosis of inherited syphilis in connection, possibly, with the test applied to blood from a vein in the mother's arm.

156 **Breast Feeding of the Newly Born.**—Jaschke states that years of experience have demonstrated that new born infants thrive better and continue to thrive better when they were suckled at first with colostrum rather than with perfect breast milk. He tabulates findings which show that the nitrogen balance kept positive in spite of the physiologic loss of weight after birth. This testified that the child was getting nourishment, and the very nourishment it needed as more minerals are retained than when it is getting complete breast milk. He also reports excellent results from applying to the breasts a Bier vacuum suction glass as if for stasis hyperemia treatment. This hastens and promotes secretion in the mammary glands so that very few women are incapable of nursing their infants. Where this is the case he tries to secure enough breast milk elsewhere to supply the lack. An unsuspected deficiency in the amount of milk secreted explains many cases of malnutrition in young infants. At the same time, he emphasizes, overfeeding during the first two or three weeks of life is far more harmful for the infant than a slight degree of undernourishment.

159 **Sepsis and Pyemia.**—Nacke says that he has never had a case of actual puerperal sepsis terminate in recovery, the prognosis with puerperal pyemia is more favorable. If the patient is otherwise healthy there is hope of keeping her strength up with careful protein diet, wine and other analeptics until her body is able to rouse and triumph over the infection. Sepsis is more liable to follow forceps, version or a cutting obstetric operation, the fever starts the second or third day and the patient feels much depressed. The fever does not develop with pyemia as a rule until the fifth to seventh day, and between the chills the patient feels comparatively well and eats with appetite. The pulse with sepsis is rapid, galloping, there are signs of peritonitis and the patient feels apathetic and persistently very ill. With pyemia the chills pile up but there are no signs of peritonitis and between the chills the patient brightens up. The prognosis of pyemia grows better as the time passes, he had a patient recover after eighty four chills in the course of thirteen weeks. Another died the forty second day after fifty four chills.

164 **The Declining Birth-Rate.**—Schaeffer's statistical study is based on 7,271 gynecologic cases in the last fifteen years and it brings out the fact that the decline in the birth rate affects only the large families. Not the *Kinder bekommen*, he says, but only the *Viel Kinder bekommen* has fallen off. His statistics also contradict the assumption that the number of abortions has increased in the last decade. The declining

birth-rate is shown to be due to intentional prevention of conception and mainly in families already blessed with children. The only means to arrest the declining birth-rate therefore is to render it easier and less expensive for families to bring up children. As the state is vitally interested in having the population increase, the government should take measures to promote this.

165. **Meningitis Following Spinal Anesthesia.**—Senge reports from Kehrer's service at Dresden the case of a woman of 58 who developed acute meningitis and hemorrhagic encephalitis seven hours after an operation for old prolapse of the uterus, done under spinal anesthesia. She died the thirty-seventh hour and a peculiar spore-forming bacillus was cultivated from the cerebrospinal fluid, viable after lying in boiling water for fifteen or eighteen hours and in a 5 per cent. phenol solution for seventy-five days and in 1 per thousand mercuric chlorid solution for over twenty-seven. He has compiled seven cases from the literature of infectious meningitis following spinal anesthesia, with two deaths, and states that the actual number of cases is probably much larger.

166. **Contracted Pelvis.**—Cuny states that the mortality in von Herff's service was 0.4 per cent. among the 1,368 cases since 1902; omitting the five cases of fatal rupture of the uterus, the mortality was only 0.28 per cent. The principle followed is to ensure a spontaneous, i. e., non-operative delivery, a spontaneous premature delivery, which was accomplished in 88.7 per cent. of all the cases as Cuny describes in detail.

167. **Fatalities after Gynecologic Operations.**—Cancer was responsible for over 42 per cent. of the 163 fatalities in von Herff's gynecologic service at Basel and heart failure in 17.2 per cent. Among the lessons taught by the material presented is the necessity for an earlier diagnosis of extra-uterine pregnancy; the necessity for scrupulous care of the mouth on the part of the operators and nurses; avoidance of speaking during an operation; recognition of the danger of infection from the air and of the importance of means to ward off thrombosis—exercise of the breathing muscles and limbs while still in bed—and copious ingestion of lemonade.

171. **Pregnancy in Art.**—Stratz gives a number of illustrations of various paintings and other works of art depicting pregnant women. The earliest example is a prehistoric outline drawing on a reindeer horn, dating from the stone age, and depicting true to nature a woman in advanced pregnancy. In Japanese art, pregnancy is frequently portrayed, but in classic art Stratz insists that the naked pregnant woman was portrayed only by accident, not intentionally. The gynecologist, however, recognizes in some of the famous paintings of Rembrandt, Titian and Giorgione that their models must have been in the third to seventh month of a pregnancy.

173. **Influence of Flat Shape of the Pelvis on Delivery with Normal Presentation.**—Esch has compiled statistics from several maternities in regard to 3,647 cases of delivery with flat pelvis and normal presentation, and has drawn a curve which instructively shows the chances for safe delivery with conjugate diameter of from 7 to 9.8 cm. Between 9.6 and 10 cm., 94.8 per cent. of the children of primiparae were delivered spontaneously and lived and 97 per cent. of the pluriparae. With a diameter of 8.6 to 9.5 cm. the figures are respectively 91.8 and 90.4 per cent.; with diameter of 7.6 to 8.5, 75 6 and 74 per cent.; with diameter of 6.5 to 7.5 cm., 14.9 per cent.

Zeitschrift für Kinderheilkunde, Berlin

IX, No. 2, pp. 87-166. Last indexed Dec. 6, p. 2112

175 *Effect of the Sun's Rays on the Leukocyte Count. (Die Einfluss der Sonnenstrahlen auf die leukocytäre Blutzusammensetzung.) E. Aschenheim.
176 Chronic Stenosis of the Duodenum in Children from Pressure by the Root of the Mesentery. (Chronischer arterio-mesenterialen Verschluss des Duodenums in Kindesalter.) E. S. Frank.
177 Emotional Psychoneuroses in Children. T. Heller.
178 Epileptiform Pseudobulbar Paralysis Ending in Recovery; Two Cases. J. Zappert.
179 Advantages of the Right Lateral Position in the Radiologic Examination of the Infant's Stomach. E. Rach.
180 A Serologic Study of Leishman's Anemia in Children. G. Dicristina and G. Caroma.
181 Spasmophilia in Japan. K. Iwamura.

175. **Effect of Sun's Rays on the Leukocyte Count.**—Aschenheim subjected thirty-one patients to a blood count before and after an hour's exposure of the body to the direct action of sunlight. In 80 per cent. of the cases there was a *general leukocytosis in the peripheral blood with a relative* increase in lymphocytes and decrease in polymorphonuclears. Lymphocytosis is regarded by many authors as a defense reaction against tuberculosis, and Aschenheim suggests that this may account for the favorable effect of sunlight on tuberculosis.

Zeitschrift für klinische Medizin, Berlin

LXXVIII, Nos. 5-6, pp. 371-542. Last indexed Dec. 13, p. 2201

182 Primary Interstitial Tuberculosis Causing Contracted Kidney. (Tuberkulöse Schrumpfniere.) S. Schönberg.
183 *Urobilin in the Stools. H. Eppinger and D. Charnas.
184 *Auto-Intoxication from the Intestine. I. (Zur Frage der vom Darm ausgehenden Intoxikationen.) H. Eppinger and J. Gutmann.
185 *Form of Glycosuria in Pregnancy Not Connected with Diabetes. J. Novak, O. Porges and R. Strisower.
186 Diagnosed Case of Primary Adrenal Melanoma with Metastases. B. Molnar.
187 *Alimentary Levulose Blood Test of Functioning of the Liver. (Die alimentäre Lävulose-Hyperglykämie.) H. Schirokauer.
188 *Influence of Concentrated Salt Solutions on the Red Blood-Corpuscles.* (Einfluss konzentrierter Salzlösungen auf die roten Blutkörperchen.) E. Herzfeld.
189 Elimination of Amino Nitrogen in Diabetes. (Zur Frage der Aminostickstoffausscheidung beim Diabetes mellitus.) W. Löffler.
190 *Pregnancy Glycosuria a Form of Renal Diabetes. Mann.
191 Apparatus for Determining the Carbon Dioxid Tension of the Blood. (Studien über die Kohlensäurespannung des venösen Blutes mittels des neuen tragbaren Gasinterferometers.) R. Helm.
192 Borderland between Complete Heart-Block and Puerperal Arhythmia; One Case. (Perpetuierliches Vorhofflimmern bei permanenter Kammerautomatie.) J. Arndt.

183. **Urobilin in the Stools.**—The research reported suggests that the determination of the urobilin in the stool may have diagnostic import. In thirty-four patients whose metabolic findings are tabulated, the proportion of urobilin in the stools—the average in the daily output taken from several examinations—ranged from 4 gm., in a case of hemolytic jaundice, to 0.012 gm. in a case of cancer anemia. The average in health was 0.13 gm. and this figure was remarkably constant in all the normal persons examined. The limits of the alimentary appearance of urobilin in the urine and stool must be determined first.

184. **Intestinal Auto-Intoxication.**—Eppinger and Guttmann have become convinced from the results of their study of the subject, that substances may be sent out from the intestines to act in the capacity of hormones. If this assumption is confirmed, then the intestines must play a rôle in the body similar to that of the glands with an internal secretion. Histamin, putrescin, cadaverin and tyramin may have a hormone function. They were able to isolate from stool another base, beta-imidazolylethylamin, extraordinarily toxic. If one or two drops of a 1 per thousand solution of this are dropped on a superficial needle-scratch, typical urticaria develops at the spot in less than five minutes. On the basis of this and other experiences related, urticaria patients were put on a diet as free from protein as possible to avoid production of this base, and a marked improvement was noted in several cases. Mellany and Twost have recently announced the discovery of a bacterium which elaborates imidazolylethylamin out of histidin in an alkaline medium. The addition of salt or sugar checks this.

185. **Glycosuria in Pregnancy.**—The glycosuria in pregnancy is generally due to an extra sensitiveness on the part of the kidneys to the sugar in the blood. Nothing is found to indicate any disturbance in the metabolism of sugar, and neither the spontaneous nor the alimentary glycosuria can be accepted as necessarily a sign of pathologic conditions in the kidneys. These statements are based on the metabolic findings in sixteen women during and following a pregnancy. In contrast to these are tabulated the findings in three pregnant women with mild diabetes. The pregnancy had an unmistakably aggravating effect on the constitutional disease. The first patient was a vi-para of 31 who had given birth only

to still born children At the eighth month a course of dieting excluding carbohydrates was commenced and the sugar speedily disappeared from the urine but coma developed at once, which was rapidly fatal The fetus was macerated The second patient, a woman of 25, had had no symptoms to call attention to her mild diabetes until the seventh month of her first pregnancy when she suddenly felt sick, with pain in the stomach region and difficulty in breathing, coma developing the third day Artificial delivery of a macerated fetus did not avert the fatal outcome The third diabetic patient aborted at the second month and recovered The fetus generally dies sooner or later or is constitutionally inferior if it reaches term when the woman has diabetes even in a mild form, so that the question of inducing early abortion should be considered in such cases The aim in dieting should be to reduce the glycosuria within bounds without acidosis rather than to try to banish the sugar altogether

187 **Levulose Test of Liver Functioning**—Schirokauer examined the blood, as well as the urine, in applying the alimentary levulose test, and found that this gives much better oversight of conditions, but he declares that levulose is not very well adapted for the purpose Possibly simultaneous tests of the tolerance for both galactose and levulose may throw more light, investigating the alimentary proportion in the blood In twenty three cases the findings were conflicting with the levulose test, with extreme alimentary levulosemia in some cases there was no levulosuria and vice versa.

190 **Pregnancy Glycosuria**—Mann asserts that the kidneys become hypersensitive to the sugar in the blood during pregnancy even when the proportion of sugar is normal or only slightly above The amounts of sugar eliminated by the kidneys rise and fall with the intake of sugar

Zeitschrift fur Urologie, Berlin

November, VII, No 11, pp 865 944

193 *Hemorrhage from the Kidney in Hemophiliacs (Nieren blutungen bei Hamophilen) O Mankiewicz
194 Roentgenogram of Tuberculous Focus in Kidney Mistaken for Calculus (Fall von irrtumlicher Deutung eines Nieren rontgenogramms) A W Wischnewsky

193 **Hematuria in a Hemophiliac**—Mankiewicz's two patients were young men who had a history of serious hemophiliac hemorrhages in previous years; in both the hematuria came on a few hours or two days after a steam bath with massage or a superheated air bath The urine filtered without leaving any sediment, so that there must have been hemolysis as well One patient was quieted with morphin and the tendency to hematuria subsided under gelatin internally, ergot, epinephrin and castor oil This patient died suddenly a few months later from acute heart failure The hematuria kept up in the other patient notwithstanding the usual measures, including subcutaneous injection of horse serum Then, at a consultation, Kussmaul's old experience was recalled He failed constantly on account of hemorrhage, in some experiments on dogs, until he kept the dogs from drinking, feeding them abundantly but giving them little if any water On this dry diet the blood became so much thicker that there was no further tendency to hemorrhage Mankiewicz acted on this suggestion in this rebellious case of hematuria, and the hematuria ceased as the patient refrained from fluids He had the heroism to refrain for two weeks from drinking, and his food was prepared as dry as possible The blood and organic juices thus became more concentrated, and contained proportionately more coagulable substance The result was complete subsidence of the manifestations of hemophilia No record of the use of a dry diet in management of hemophilia is known to Mankiewicz, but he has found a reference in Leyden's works to his success in arresting a tendency to hemorrhage from the lungs, stomach or uterus by restricting the intake of fluids, and he added that he had found this a useful measure also in controlling habitual vomiting and diarrhea

Mankiewicz says that on two occasions he had all in readiness to apply transfusion according to the technic described by Elsberg in THE JOURNAL, March 13, 1909, p 887, but each time the hematuria let up under the gelatin by the mouth and restriction of fluids The young man has kept up the gelatin by the mouth to date, it was given by subcutaneous injections during the first four weeks The success in this case justifies the systematic, protracted administration of gelatin in connection with a dry diet as the routine treatment for severe uncontrollable hemorrhage in general, and particularly when the patient is a "bleeder" Even the simple technic for transfusion may prove a dangerous operation in a hemophiliac The literature on hemorrhage from the kidney without appreciable local disease is reviewed

Zentralblatt fur Chirurgie, Leipsic

November 22, XL, No 47 pp 1809 1848

195 Cutting Off the Cardia as Preliminary to Resection of the Thoracic Portion of the Esophagus for Carcinoma H Fischer (New York)
196 Transpancreatic Choledochotomy F v Fink

November 29, No 48, pp 1849 1880

197 *Flap of Fat Tissue to Arrest Sheet Hemorrhage (Die freie Fetttransplantation bei Blutungen der parenchymatosen Bauchorgane) W Hulse
198 *Laceration of Semilunar Cartilage (Zur Diagnose der Menis cusluxation und des Meniscusabrisses) E Bircher

197 **Flap of Fat Tissue to Arrest Sheet Hemorrhage**—Hulse comments on the dangers and drawbacks of using a flap of omentum, fascia or muscle tissue to apply to a bleeding surface in an abdominal operation There is liable to be hemorrhage in the stomach when a piece of omentum is resected, and the bleeding may be threatening in character To obtain fascia or muscle for the purpose requires another operation or, if taken from the abdominal wall, this is liable to injure the firmness of the wall On the other hand, a piece of adipose tissue can be spared from the abdominal wall without harm while it seems to have special advantages for hemostasis, promptly arresting the hemorrhage over a large area after resection of part of the liver, spleen or kidney in nineteen rabbits, three dogs and in two clinical cases In the clinical cases the liver had to be resected in removing a cancer in the gall bladder, and in both cases the sheet hemorrhage from the liver cut surface stopped in a minute or two when the piece of fat was fitted over the bleeding area In only a few of the animals did the hemorrhage keep up until the flap was sutured to hold it in place

198 **Diagnosis of Laceration of Semilunar Cartilage**—Bircher has found that in dubious cases it is possible to ascertain by auscultation of the knees whether the cartilage has been torn It is important to compare the findings in the injured and the sound knee, with the patient in various positions With a rubber ring the stethoscope can be fitted on the uneven surface of the joint

Zentralblatt fur Gynakologie, Leipsic

November 15, XXXVII, No 46, pp 1677 1708

199 *Early Sign of Extra Uterine Pregnancy A Solowij

November 22, No 47, pp 1709 1740

200 *Permeability of Cervical Canal at Close of Pregnancy (Durchgangigkeit des Cervicalkanals und des Muttermundes am Ende der Schwangerschaft) J Braude
201 Pedunculated Skin Flap to Close Large Rectovaginal Fistula (Verwendung gestielter Hauptlappen zum Verschluss grosser Mastdarm Scheidendefekte) H v Ortenberg

November 29, No 48, pp 1741 1772

202 Technic for and [illegible] oentgen Exposures (Das Problem [illegible] in der gynakologischen Ront
203 *Resection of Promontory to Correct Contracted Pelvis H Rotter

199 **Early Sign of Extra-Uterine Pregnancy.**—Solowij here reports another case in which his method gave decisive findings The Abderhalden test for pregnancy had given a negative response and the suspicion of extra uterine pregnancy was then given up until the positive response to his sign sustained the assumption of an extra uterine pregnancy, confirmed by operation If the pouch of Douglas is palpated and found normal and then palpation anew, a few hours later, shows a doughy resistance in the pouch of Douglas, all doubt as to the extra uterine pregnancy is at once cleared up He warns that as conditions are changing, the findings are comparatively transient

200. Permeability of Cervical Canal at Close of Pregnancy.—Braude examined 180 primiparae in the ninth or tenth month and found the cervical canal and the os open enough to permit the passage of the finger in 46, and the canal remained open for from five to fifteen days in 20 of the women and from sixteen to twenty-five days in 9. Among 263 primiparae at the eighth or ninth month, the passage was open in 28, including 10 in whom it was permeable for five to fifteen days; 5, from sixteen to twenty-five days; 5, from twenty-six to forty-five days, and 3 from forty-six to sixty-four days. Among 14 at the seventh to eighth months the cervical canal and os were found open in 4 women and they persisted permeable for from seventeen to sixty-five days. The pregnancy in nearly all of the women proceeded to normal term irrespective of whether the passage had been open or not. Permeability of the cervix is thus not a sign of immediately impending delivery.

203. Resection of Promontory to Correct Contracted Pelvis.—Rotter declares that the experiences to date with systematic resection of the promontory to permit normal childbirth by enlarging the diameter of an abnormally narrow pelvis have amply confirmed the simplicity and comparative harmlessness of the method and the excellent and permanent results. It has been applied in nine cases to date. In his case, reported in detail, a woman of 32 had borne eight children but each had died during the difficult labor as the true conjugate measured only 7.8 cm. He sliced off the front of the promontory and the woman had entirely recovered the seventeenth day. Examination five months later showed not a trace of callus; a smooth surface was felt instead of the projection of the promontory, and the diagonal conjugate measured 10.7 cm. against 9.3 cm. before the operation. Schmid's experience with the operation was summarized in these columns, Dec. 6, 1913, p. 2112. Rotter here remarks that Schmid did not do the operation until seven months after Rotter's first publication on the subject, and he thinks that Schmid's claim to share the priority for the operation raises the question as to whether science will accept as valid a seven months' interval for superfecundation of an idea.

Zentralblatt für innere Medizin, Leipsic

November 15, XXXIV, No. 46, pp. 1145-1168

204 *Murmurs Audible in Skull. (Ueber kranielle Geräusche.) H. Köster.

November 22, No. 47, pp. 1169-1192

205 Quinin Plus Collargol in Treatment of Pneumonia. (Beobachtungen über Auslösung der Krise bei kruppöser Pneumonie durch eine kombinierte Chinin-Kollargolbehandlung.) G. Grund.

204. Murmurs in the Skull.—Köster states that murmurs are audible inside the skull in more conditions than hitherto deemed possible, and they cannot be regarded as pathognomonic of any condition. The murmur heard when there is anemia from any cause may prove instructive as it grows less and less audible as the blood-supply returns to normal. He examined about fifty patients and found the murmurs distinct in a number of cases of hemorrhagic gastric ulcer or cancer, in pernicious anemia and with lesions localized in the skull. He found the murmurs more pronounced with abnormally low hemoglobin content than with low corpuscle count.

Gazzetta degli Ospedali e delle Cliniche, Milan

XXIX, Nos. 132-139, pp. 1383-1462

206 Hemostasis in Operating on the Liver. C. Gaetano.
207 Improvement in Blood Picture and General Condition after Removal of Enlarged Malarial Spleen. A. E. Cartolari.
208 Superiority of 5 Per Cent. Alcoholic Solution of Thymol over Tincture of Iodin for Sterilization of Hands and Field. G. Monzardo.
209 Aid from the Blood-Count in Diagnosis of Measles. E. Mensi.
210 Nodose Erythema in Connection with Tuberculosis; Four Cases. A. de Blasi.

Policlinico, Rome

November 23, XX, No. 47, pp. 1693-1728

211 Freshly Distilled Water for Intravenous Injection of Salvarsan. M. Mantovani.
212 Dangers of Physical Overexertion. (Alcune considerazione sulle strapazzo fisico.) P. Ercolani.
213 Medical Symbols in Ancient Babylon. (Babilonia e la medicina ippocratica.) V. Pensuti.

November, Surgical Section No. 11, pp. 481-528

214 Advantages of Endothoracic Route and Fascia Flaps to Close Defects in Diaphragm. G. Giordano and L. Stropeni.
215 Nerve-Splicing for Traumatic Facial Paralysis; Two Cases. (Incrocio totale spino-facciale per lesione traumatica del facciale.) G. Serafini.
216 Operability of and Abscess to Tumors in the Pineal Gland. F. Nassetti.
217 Branchial Tumors; Two Cases. (Formazione congenita mediane del collo.) E. L. Piazza.
218 Experimental Inflammatory Lesions in the Hypophysis Region. A. Chiasserini.
219 Experimental Urethra Grafts. (Traplanti d'uretra.) G. Pinardi.

Riforma Medica, Naples

November 1, XXIX, No. 44, pp. 1205-1232

220 *Skin Tuberculin Reaction in Whooping-Cough. O. Cozzolino.

November 8, No. 45, pp. 1233-1260

221 Histologic Changes in the Bulbar Nerve Centers in Acid Intoxication. G. Lucibelli.
222 The Wassermann Reaction and Salvarsan Treatment in Inherited Syphilis. E. Mensi.
223 Postoperative Ileus. G. De Francisco. Commenced in No. 44.

220. The Skin Tuberculin Reaction in Pertussis.—Cozzolino appiled the Pirquet test to 200 children with whooping-cough during a recent epidemic at Cagliari, repeating the test in a few instances. Contrary to what is observed in the acute eruptive diseases such as measles, the skin reaction was not modified by the presence of the pertussis, the findings corresponding to those usual in other conditions outside of the erythematous diseases. Supplementary tests with the Mantoux technic for the intradermal tuberculin reaction confirmed in every respect the findings with the Pirquet technic.

Rivista Ospedaliera, Rome

October 31, III, No. 20, pp. 877-916

224 *Operative Treatment of Cancer of the Colon. R. Bastianelli.

224. Cancer of the Colon.—Bastianelli's article opened the discussion on cancer of the colon at the recent international medical congress at London. He discusses the different indications according as the tumor is in the colon on the right or left side. When ileus is already installed the mortality is high—it was 60 per cent. in 84 cases in the literature since 1900. In 356 cases of cancer of the colon on record in which a single operation was done, the mortality was 33.4 per cent., but in the 44 operated on since 1905 it was only 4.5 per cent. In 68 comparatively recent cases of cancer in the right side the mortality was only 8.8 per cent.—a great change from the 35 per cent. of the total statistics. His compilation includes further 69 cases in which the operation was done at three sittings, with a mortality of 21.7 per cent., and 143 cases in which the Mikulicz-Paul method was applied, with mortality of 2.5 per cent. The mortality of the total 739 cases not complicated with ileus was thus 26 per cent.; but in the last few years it was only 9 per cent. for the right and 15 per cent. for the left side. The patients surviving for more than three years form 29 per cent. of the above. Only 29 per cent. of the total 739 patients have survived for three years or more to date. This is equivalent to the statement that only thirteen are left alive by the end of three years out of every hundred persons with cancer of the colon. Three additional ones drop out from recurrence a year or so later, so that only an average of 10 per cent. are permanently cured by our best technic to date.

Meditsinskoe Obozrienie, Moscow

No. 14, LXXX, pp. 207-286

225 Technic for Auscultation. I. A. Strelkoff.
226 Roentgen-Ray Examination of the Kidneys. L. A. Jacobson.
227 Biochemical Basis for Dieto-Therapy of Nephritis. I. S. Chuprin.

Hospitalstidende, Copenhagen

November 19, LVI, No. 47, pp. 1381-1412

228 Phagocytosis in the Test-Tube with and without Presence of Serum. (Studier over den spontane Fagocytose.) O. Wulff.

Ugeskrift for Læger, Copenhagen

November 13, LXXV, No. 46, pp. 1815-1846

229 Application of Copper to Urethral Mucosa by Means of Continuous Electric Current. (Kobberindførelse i Urethralslimhinden ved Hjælp af konstant elektrisk Strøm.) S. Lomholt.
230 Saline Infusion Plus Hypophysis Extract in Treatment of Eclampsia. C. de Fine Licht.

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INFANT MORTALITY IN THE FIRST FOUR WEEKS OF LIFE

HENRY KOPLIK, M.D.
NEW YORK

Infant mortality in the first four weeks of life is so intimately connected with prenatal influences that we may consider this period of extra-uterine existence as closely allied in many of its aspects to the history of the fetus *in utero*. There are many conditions of the father and the mother which produce an infant unfitted to resist the physical influences of postnatal existence. A large number of infants live but a few hours or days no matter how we strive to maintain life in them. In other words, our present methods of preserving the life of the new-born do not reach such infants. Perhaps it is fortunate that this is so. The children of parents who suffer from organic diseases, such as syphilis, tuberculosis, heart disease, diabetes or nutritional disorders, may be either premature or unfitted to live. Thus we have an immense number of still-births, in some of which the infants succumb to influences not yet fully understood. Parental influence on postnatal life may not yet be an open book to us. We can understand some weaknesses of the father, such as syphilis, pulmonary diseases, general nutritional disorders, etc., but the influence on the part of the father which causes the weakness of the new-born is, in many phases, not as yet clear. Among the working classes and the absolutely poor, lack of proper food, rest and habits react against the fetus and produce a congenitally weak infant.

It will thus be seen, as I understand it, that the subject of infant mortality in the first few weeks of life must deal with certain *definite considerations*:

1. Infants born prematurely and congenitally weak though free from constitutional disease such as syphilis.
2. Infants apparently free from disease but too weak to live—those which fall below a definite standard of living-weight, including all still-births occurring without accidental birth complications.
3. Still-births which result from accidents in delivery or from instrumental interference.
4. Infants who are born of good weight, viable and free from constitutional disease, who die of some acquired infection or condition or of inanition. It may be further shown that the condition of life into which this class of infants is born, that is, whether they are legitimate or illegitimate, is a great factor in the continuance of life, and also, whether they are born in poverty or are surrounded by all the necessities for life is another influence to be fully considered.
5. Infants who are born prematurely, of good weight and viable, but are the subjects of constitutional disease.

We must consider in the first class the infants born prematurely and congenitally weak, those weighing less than 1,000 gm. (2 pounds), as unfitted to live.

In European hospitals premature births constitute from 16 to 20 per cent. of the total number. This depends much on what is considered premature, and those are so regarded which are born weighing less than 2,500 gm. (5 pounds). Deaths among the prematurely born in this country and among those so born in European institutions reach a very high figure. The mortality depends largely on the weight, the mode of management after birth, and whether the new-born has come under *immediate treatment* or has been subjected to exposure. Budin, who made a life-study of this phase of the question, disregards the infant born weighing less than 1,000 gm., for it is rarely reared.

Of infants weighing less than 1,500 gm. (3 pounds), only 1.9 per cent. survive; from 1,500 to 2,000 gm., 2 per cent. survive, giving a gross *mortality of 98 per cent.* for all prematures born weighing from 1,000 to 2,000 gm. The duration of life of premature infants in institutions conducted as Budin did his, is certainly discouraging, and much more hopeless is the problem outside among the poor, where the infant is not taken to an institution. On the other hand, fully 77 per cent. of *the infants born in Budin's institution* whose temperature and strength were conserved and who weighed 2,000 gm. (4 pounds) or less, survived. This illustrates the potent influence of exposure *on the premature.*

As to the further life of the prematurely born infant much depends on the mode of feeding and whether it has escaped extraneous infections. Of those premature infants weighing from 2,000 to 2,500 gm., and born in the institution, 98 per cent. survived. As illustrating the *influence of feeding* Budin cites fifty-four infants discharged from his institution weighing 2,800 to 3,000 gm. Forty-one per cent. of the artificially fed died, as against 15 per cent. of the breast-fed. *We can thus appreciate that aside from the influence of syphilis and constitu*tional disease the premature infant will survive or succumb according to whether the body temperature is conserved, whether it escapes infection, and last, and as important as any, whether it is placed in a position to have artificial or breast-feeding.

In the breast-fed of this class, as in other classes of infants, the mortality is low as compared to the infant artificially fed. Whereas the mortality among prematurely born breast-fed infants is about 15 per cent., that of the *premature infants* on bottle-feeding is 41 per cent. In the classification of infants born at full term, the fact that the breast-fed baby is more resistant to the inroads of disease than the bottle-fed *infant* will be further demonstrated. This does not underestimate the rôle played in the first month of life *of the* other causes of death which are to be considered.

STILL-BIRTHS

Still-born infants are all infants born dead or who have lived only a few hours after birth. These form an immense quota of infants either premature or congenitally weak, with or without constitutional taint, who are either born alive and live a few minutes or hours or are born dead at full term or are living at birth and die shortly afterward from injuries due to accident, as in instrumental or manual interference. The following table taken from Tugendreich, who quotes Prünzing, is interesting as showing clearly the percentage of still-births which have been caused by faulty labor:

Head presentation	1.8
Face presentation	11.4
Breech presentation	20.7
Transverse presentation	31.0
Prolapsed cord	56.3
Placenta praevia	38.3
Induced labor	19.3
Version foot	30.0
Version head	20.0
Breech extraction	18 8
Cesarean section	25.0

Still-births in Germany in 1906 numbered 62,261 of 2,084,738 births and the number has not materially diminished in recent years. This covers, in round numbers, 3 per cent. of all births and 6 per cent. of all deaths.

The statistics obtained by me in New York for the years 1911 and 1912 present a similar condition. In 132,776 births there were 6,749 still-births, or 5 per cent.

The number of deaths from those causes which produce still-births is considerable. On the other hand, the infant born at full term is subject to the dangers of various infections, though of late years these sources of infection have been reduced. Advances in the methods of governing the conditions which surround the parturient woman have considerably reduced the danger of infecting the new-born. Some diseases of the new-born which were formerly prevalent are now uncommon. Malformation and constitutional disease will remain as prevalent in the future as they have been for decades past.

Morbidity among the new-born is of great interest. First and foremost it is noticeable that among breast-fed infants the mortality is not so high as among the bottle-fed; hence, it is seen that though morbidity may be as frequent, resistance to the inroads of disease is much more successful among breast-fed than among bottle-fed infants. Thus of 2,923 infants dying in Berlin of various causes, 373 were breast-fed, the remainder either were bottle-fed, or the method of feeding was not mentioned in the death certificates. Another matter of interest is that of 10,170 deaths in the first year of life, 2,923 occurred in the first month, that is, 28 per cent., and only 7 per cent. occurred in breast-fed infants. (Howarth, Boeckle, Groth, Finklestein, Dietrich, Tugendreich. Moreover, we find that in the heated term, from July to September, deaths among bottle-fed infants outnumber those among the breast-fed as 1 to 4 (Tugendreich). This applies more to infants in the first month of life than to those below one year of age, and proves distinctly that the dangers which threaten the artificially fed infant, such as poverty, heat, ignorance, crowding, unskilful feeding and decomposed food, do not apply in the same degree to the breast-fed infant.

A much-discussed influence on the morbidity of new-born infants or of those below the age of one year, is the social position of the parents. It has been shown time and again that the mode of feeding is not of itself a cause of mortality, except as it is practiced among the poor and ignorant. Among the well-to-do and the intelligent classes the same causes of mortality do not obtain as among the poor, and hence, also, the morbidity of the infant population varies. Krieg and Senteman have shown that under the more favorable conditions of home comforts and surroundings, mortality and morbidity among bottle-fed infants are reduced fully 50 per cent. The social standing of the family affects the mortality of breast-fed infants but little, whereas it is of far-reaching influence among bottle-fed infants. The number of children in the family among the very poor is of some influence. Tugendreich has studied this question in Berlin and found that among the breast-fed infants in families containing six children, the mortality was only one-third as large as that among bottle-fed infants in families containing the same number of children, or 19.8 per cent., as compared to 43.2 per cent.

The question of legitimacy or illegitimacy of the infant is a potent factor, not only as to morbidity, but also as to mortality. The illegitimate infant suffers, as a rule, the disadvantages of poverty, indifference of the parents to its fate and the physical weaknesses with which these infants are well known to be affected. Thus Weinberg shows that the number of still-births among illegitimate infants is fully 1 per cent. higher than among infants born in wedlock. The influence of this condition is found to exert itself in infants below one year of age as a cause of inanition, atrophy, gastro-intestinal disorders, and, therefore, as a cause of mortality.

Before considering in detail the statistics at present available to me in America on infant mortality in the first month of life, it is well to consider the difference between the mortality among such infants in institutions devoted to their care and that among the people at large. I have shown that in Paris the results among the premature are much better as to infants born in institutions than among those brought to the institutions from their homes or places of birth. This is such a self-evident fact that it would seem needless to enlarge on it, yet Budin lays special stress on the increased mortality among the premature who have been subjected to reduction of temperature by exposure, and he also lays stress on feeding as an element in conserving the life of the premature. In institutional work we would expect, to a degree, a marked reduction in septic influences and a reduction of mortality among the new-born which could be traced to this cause, yet we have no statistics on this point. The feeding in maternity institutions, it would seem, should be ideal, and yet from what can be learned, at least in America, this condition is not always present. It is difficult to understand why artificial feeding should be in vogue in maternity hospitals, especially as in these institutions so many women may have an excess of food for their own infants which might be given to those who are not blessed with the maternal breast, yet such a procedure is far from being attempted. The care of the premature, at least in America, has not reached that degree of perfection which our advanced ideas demand. Thus in addition to still-births there is a proportion of deaths in these institutions which are due, as my studies seem to indicate, to avoidable causes. This is true also outside of maternity hospitals.

MORTALITY IN THE NEW-BORN IN THE UNITED STATES

The statistics of infant mortality in the United States, as in other countries, are based on the annual reports of boards of health for infants below the age of one year. None of these reports give us an idea of the mortality during the first four weeks of life, unless specially computed. In a circular letter which I sent to all the boards of health in the United States in 1912, I made inquiry as to the availability of such statistics. It was impossible to obtain any reliable information, except from two or three sources. I therefore determined to compile the desired statistics from the records of the Board of Health of New York City. In order to do this, every death certificate was inspected, and the diagnosis as to cause was obtained from these sources. This was most laborious; at the same time the results were instructive, inasmuch as the actual causes of death were obtained, and our conclusions were drawn from the causes which will be found in the tables. It must be kept in mind that there is a measure of error in this, for not every physician can make a positively correct diagnosis, nor can such diagnosis, even if made by the skilful, be absolutely relied on without a postmortem examination. It should be borne in mind also that the board of health statistics include those of all hospitals, so that the sets of institutional statistics are duplicated in the gross statistics of the city authorities.

For the sake of conciseness, the causes of death in infants under four weeks of age must be grouped. The first great group should include the diseases of the newborn, including the prematurely born; the second, the diseases of the respiratory organs; the third, the diseases of nutrition, which would include marasmus, inanition and disturbances of the stomach and intestine; the fourth, malformations, and finally the various injuries received in delivery.

STATISTICS FOR 1911 AND 1912

The total population at this time, the number of births, still-births, illegitimate births, the number of deaths in infants under one month and the number of deaths in infants under one year, with their relation to the total population for 1911 are recorded in Table 1.

TABLE 1.—BOARD OF HEALTH OF THE CITY OF NEW YORK, BOROUGH OF MANHATTAN

Year	Number of Births	Number of Still-Births	Number of Illeg. Births	Number of Deaths 1 Mo. and Under	Number of Deaths Under One Year	Population
1911	66,537	3,438	1,559	2,732	8,223	2,389,204
1912	66,249	3,311	1,541	2,547	7,675	2,487,796

Of 66,537 births of all kinds, there were 2,732 deaths of infants in the first four weeks of life, or 4.1 per cent. of all births. That is, in round numbers, one infant in every twenty-five, or four in every hundred, died before reaching the age of one month. On its face, this is not so bad a record, until it is compared with the mortality in infants aged under one year. The number of deaths in such infants was 8,223 out of the total number of 66,537 births. Thus fully 33.2 per cent. of the deaths occurred before the first four weeks of life were completed, which is a rather startling record.

The largest number of deaths occurred in premature or congenitally weak infants. This includes also those, who, through unskilful management, died from inanition as a result of incorrect feeding, exposure, etc. There were 1,365 of these deaths, or fully one-half of the total mortality for this age. In 517 death was due to diseases of the respiratory organs, and in 206 to distinct complications occurring in the stomach or intestine, such as diarrhea or gastro-intestinal infection. This latter group must include a number of deaths in infants which belong to the first group of causes, under that of inanition. The next largest number of infants, 517, died of injuries occurring at birth or of sepsis with umbilical hemorrhage or cerebral hemorrhage resulting from instrumental delivery.

In further analyses we find among premature and congenitally weak infants that the highest mortality occurs during June, July, August and September, as a result of gastro-intestinal disease.

Syphilis does not give a large quota of deaths: only 47 in a total of 2,732.

Malformations, including those of the heart, give 131 deaths in the sum total.

In 1912 (Table 3) there were 66,249 births, with 2,547 deaths in infants aged under one month; a slightly lower rate (3.9 per cent.) than that of the previous year. Of these deaths, there were 7,675 in infants under one year. Thus, 34.5 per cent. of the deaths in infants under one year occurred in the first four weeks of life. There was an increase of 100,000 in the population, so that if this is taken into account, the total death-rate will remain about the same, or slightly less, for infants under one year.

Taking up the main groups of causes of death as indicated for the previous year, we find here also a very close correspondence. The total number of deaths occurring in the first four weeks of life being 2,547, the first group includes the premature and congenitally weak and the conditions allied thereto. Fully one-half of the deaths, or 1,388, were caused by these conditions. Respiratory diseases claimed 265 victims; gastro-intestinal diseases and allied infections, 120; malformations, including those of the heart, 156, and injuries, hemorrhages and cerebral hemorrhages, incidental to birth or following the application of forceps, 459. The latter classification in both years does not include still-births.

If we now pass in review the statistics and lessons drawn from a study of infant mortality within the first four weeks of life in a large city of two and a half millions of population, we see, first, that the greatest number of deaths at this time of life are caused by premature birth and lack of strength on the part of the infant to adapt itself to new conditions, but more than anything else the fact is impressive that of this vast number of infants, 5,279, who died within the first month of life, fully 60 per cent. died as a result of neglect, ignorance and the surroundings of poverty, for while prematurity alone may not account for a death, prematurity and exposure will. Many infants adjudged weak are worn out by incorrect feeding and inanition, and could well be saved by care from the moment of birth. This has been shown by Budin, who calculated the mortality in the class of premature infants brought into his hospital, and found the mortality in those from the outside was fully twice as great as among the premature infants born in the wards.

Respiratory diseases claim a large quota, and many of the deaths among these must have been brought about by neglect, filth and ignorance. Aside from still-births, which are quoted by these statistics in a separate class, we cannot help being startled by the large number of deaths which are peculiar to the conditions of birth, such as umbilical hemorrhage (sepsis); atelectasis, due either to faulty care after delivery or to premature birth; injury by forceps, in which the infants die some time after birth, and finally cerebral hemorrhage, which is generally due to instrumental delivery. Fully 936 out of 5,279 deaths of infants in New York City during 1911 and 1912 were the result of some accident or instrumental injury at birth; or, one in every five deaths is directly traceable to the conditions of delivery.

This should make us pause and wonder whether the average physician outside of institutions has attained the skill that he should be expected to have at the present day. This is so delicate a subject that it demands a more thorough report of each birth before any conclusion can be reached.

I have remarked that in preparing this article I wrote to every state board of health in the United States for statistics as to the mortality of infants under one month of age. The replies showed that with few exceptions no such statistics were available, and that in their statistics all boards of health disregarded this period. I received, however, detailed sets of tables with remarks on infant mortality in the first four weeks of life from the state board of health of Michigan. These statistics are of such great interest that I quote them in full The total infant mortality in the first four weeks of life for the years 1910, 1911 and 1912, the cause and the number of deaths from each cause for the first, second, third and fourth week of life, are shown. One hundred and thirty-three causes of death are given

During the year 1910 there were 3,161 deaths of infants aged 1 to 4 weeks. The number of deaths of infants aged 7 days or under was 2,329, or 73.7 per cent; 428, or 13.5 per cent., died during the second week of life; 245, or 7.8 per cent, died during the fourth week of life. The most important cause of death during the year, or the cause of the largest number of deaths, was "premature birth." From this cause, 829 infants died during their first week of life; 44 during the second; 13 during the third, and 7 during the fourth. The cause of the next largest number of deaths was "inanition." One hundred and ninety-two deaths from this cause occurred during the first week of life, 60 during the second; 31 during the third, and 26 during the fourth. The cause of death next in numerical importance was "convulsions," 217 for the year; then follow "enteritis," 111; "congenital debility," 123, "malnutrition," 103, "marasmus," 90; "pneumonia," 88, "organic heart trouble," 76, etc Of important diseases requiring sanitary precautions, there were 4 deaths caused by tuberculosis, 3 by diphtheria and croup; 1 by scarlet fever; 8 by whooping-cough; 88 by pneumonia Twenty-three deaths were from violence, and 70 infants died from injuries received during birth.

For the year 1911 there were 3,228 deaths of infants aged 4 weeks or less, 71 9 per cent., or 2,320. aged 7 days or under; 13 5 per cent., or 436, during the second week of life: 8 9 per cent during the third week of life. and 5 7 per cent., or 185, during the fourth week of life.

For the year 1912 there were 3,262 deaths of infants aged four weeks and under; 2,389 during the first week; 425 during the second, 253 during the third, and 195 during the fourth week of life.

TABLE 2—DEATH OF BABIES AGED ONE MONTH AND UNDER FOR THE YEAR 1911, IN THE BOROUGH OF MANHATTAN, NEW YORK

Cause of Death	Jan April	May	June	July	August	Sept	Oct	Nov	Dec	Totals
Congenital debility icterus and scleroma, including prematurity, atrophy marasmus inanition etc	539	101	96	104	99	96	106	102	122	1 365
Erysipelas	19	1	3	2	1	0	0	2	1	29
Purulent infection and septicemia	9	1	1	1	0	0	0	0	0	12
Syphilis	19	4	4	8	4	1	2	3	2	47
General disease	12	5	0	2	4	4	2	1	0	30
Convulsions	25	2	5	2	7	4	7	6	5	63
Disease of the ears	1	0	1	0	0	0	0	0	0	2
Bronchitis	23	7	4	1	3	3	2	10	8	61
Pneumonia	86	19	17	6	6	11	12	19	21	197
Pulmonary congestion	1	1	0	0	0	0	0	0	0	2
Diarrhea and enteritis	56	5	13	12	24	16	17	14	6	163
Ulcer of the stomach	0	0	1	0	0	0	0	0	0	1
Hernia, intestinal obstruction	0	2	1	0	0	0	0	0	0	3
Other diseases of the intestine	43	0	1	0	0	0	0	1	0	45
Organic disease of the heart	25	0	1	0	0	0	0	0	0	26
Congenital malformation including spina bifida	13	10	10	18	8	14	10	15	10	108
Meningitis	6	1	0	1	0	0	1	0	0	9
Embolism and thrombosis	0	0	1	0	0	0	0	0	0	6
Tetanus	5	1	0	0	0	0	0	0	0	6
Causes peculiar to early infancy including umbilical hemorrhage, atelectasis, injury by forceps at birth etc	176	12	14	41	55	37	55	43	13	516
Cerebral hemorrhage	0	0	0	1	0	0	0	0	0	1
Disease of the liver	1	0	1	0	0	0	0	0	0	2
Disease of kidney and adnexa	5	0	0	1	0	0	0	0	0	6
Acute nephritis	0	1	0	0	0	1	1	0	0	
Disease of mouth and adnexa	1	0	1	0	0	0	0	0	0	2
Diseases of the pharynx	0	0	0	0	1	0	0	0	0	1
Diseases of the skin and adnexa	0	1	0	0	0	0	0	0	0	1
Homicide by cutting or piercing instruments	0	0	0	0	0	0	0	1	0	1
Homicide by other means	1	3	1	0	0	0	3	2	0	10
Whooping cough	0	0	2	1	0	1	0	0	0	4
Effects of heat	0	0	0	7	0	0	0	0	0	7
Acute abscess	0	0	0	0	1	1	0	0	0	2
Acute poisoning	1	0	0	0	0	0	0	0	0	1
Disease of the nervous system	0	0	0	0	0	0	1	0	0	1
Cause unknown	0	0	0	1	0	0	0	0	0	1
										2 732

As in 1911, "premature births" caused the largest number of deaths, 930 in 1911, and 1,125 during 1912.

The table shows that the excessive mortality during the first week is almost entirely caused by premature birth, congenital malformation and feeble vitality. Over four-fifths of the deaths in the first week were recorded as from these causes.

"Some of the causes of infantile mortality are common to every locality, such as prematurity of birth and congenital defects. The health conditions under which the mother lives have an undoubted influence on the vitality of her progeny, and on the occurrence of premature birth. Hereditary influences, such as syphilis, or the degradation and drunkenness of parents, are also of importance. The inexperience with and neglect of their infants by mothers is a most important factor in infantile mortality. Long hours of service of mothers among the industrial classes under improper conditions also is most serious in effect. As regards inexperience, it has been suggested that the deaths of first-born children should be separated from the general infantile mortality. Such returns would undoubtedly show that the rate of death in the first-born is higher than that in the other children; but some of the excess might be attributed to greater difficulty in parturition as well as to parental inexperience. Improper food and methods of feeding are responsible for a large amount of mortality in infants. When improper feeding is a chief factor in producing infantile mortality, a large proportion of the deaths are caused by diarrhea and digestive disturbances. Convulsions are a common result from the irritation produced by improper food."

The points of greatest interest are that the first week of life shows the greatest mortality, the number of infants dying being 71 per cent. to 73 per cent. of the whole number of deaths in the first four weeks. The second week shows a mortality of 13.5 per cent. up to 8 per cent. during the third week, and 5 per cent. to 7.8 per cent. during the fourth week of life. In the main these statistics confirm the conditions causing death as shown in statistics drawn from large numbers of population, in that the causes of the greatest number of deaths are prematurity, inanition, birth injuries, respiratory diseases and diseases of the gastro-intestinal tract. It can thus be seen that for large communities the statistical showing of the causes and number of deaths at the time of life we are discussing remains constant, and the causes are, at least in America, also constant. If this is true of all localities, it would seem that measures to reduce the infant mortality might well be uniformly promulgated, and yet how this is to be done is one of the most difficult problems to be considered at present.

TABLE 3.—DEATH OF BABIES ONE MONTH AND UNDER ONE MONTH OF AGE FOR THE YEAR 1912. BOARD OF HEALTH OF NEW YORK, BOROUGH OF MANHATTAN

Cause of Death	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Congenital debility, icterus and sclerema, including prematurity, atrophy, marasmus, inanition, etc.	120	113	120	95	131	111	125	121	121	121	102	105	1,388
Erysipelas	1	2	4	3	0	3	3	2	0	0	1	0	19
Gangrene	0	1	0	0	0	0	0	0	0	0	0	0	1
Syphilis	6	4	6	9	4	3	3	2	3	4	8	5	57
Gonococcus infection	0	0	0	0	1	0	0	0	0	0	0	1	2
General disease, including purpura, hemorrhagica, diabetes insipidus, etc.	1	0	0	0	0	0	0	0	0	0	0	0	1
Convulsions	8	0	3	1	2	5	3	4	0	4	0	2	32
Bronchitis	13	6	8	2	4	0	2	3	3	5	5	5	56
Pneumonia	28	26	14	26	6	8	10	10	10	21	26	22	207
Influenza	1	0	0	0	0	0	0	0	0	0	0	0	1
Whooping-cough	0	0	0	0	0	0	0	0	0	0	2	0	2
Diarrhea and enteritis	4	6	13	11	11	7	14	13	14	10	4	7	114
Disease of the stomach	0	0	0	0	0	0	0	0	0	0	0	3	3
Hernia, intestinal obstruction	0	1	1	0	0	0	0	0	0	0	0	1	3
Congenital malformation, including spina bifida, congenital malformation of heart	13	11	20	3	17	12	16	11	8	17	15	13	156
Disease of the skin and adnexa	1	0	1	1	0	1	1	0	0	0	0	1	6
Disease of kidney and adnexa	0	0	0	0	0	0	0	0	0	0	0	1	1
Disease of the liver	0	0	0	0	0	0	0	1	0	0	0	0	1
Meningitis	0	0	0	0	0	0	0	0	0	0	1	0	1
Softening of the brain	0	0	0	0	0	0	0	1	0	0	0	0	1
Tetanus	3	0	0	0	0	0	0	1	0	0	0	0	4
Causes peculiar to early infancy, including umbilical hemorrhage, atelectasis, injury by forceps at birth	43	47	50	38	45	31	35	37	20	45	31	37	459
Homicide by cutting or piercing instruments	1	0	0	0	1	0	0	0	0	1	0	0	3
Homicide by other means	2	0	4	0	2	1	0	0	0	0	1	0	10
External violence	1	1	0	0	0	1	0	0	0	0	0	0	3
Accidental drowning	1	0	0	0	0	1	0	0	0	2	0	0	4
Absorption of deleterious gases	0	1	0	0	0	0	1	0	1	0	1	1	5
Acute poisoning	0	0	0	0	0	0	0	0	0	0	0	0	0
Acute abscess	0	0	3	0	0	0	0	0	0	0	0	1	4
Disease of organs of locomotion	0	0	0	0	0	0	0	0	1	0	0	0	1
Diseases of the lymphatic system	0	1	0	0	0	0	0	0	0	0	0	0	1.
Cause of death not specified	0	1	0	0	0	0	0	0	0	0	0	0	1
													2,547

The measures taken toward the prevention of prematurity must consider furthering the strength as well as the health of the mothers. If the mother is given rest, good food and quiet surroundings the child will benefit. Pinard, observing women in France who worked up to the time of their confinement and women who had rest and care for days or weeks before confinement, proved that in the latter the child was benefited and weighed more at birth. Ballantyne in his work on "Antenatal Pathology and Hygiene," has advocated the establishment of homes or retreats where mothers about to be confined might be treated by hygienic methods and aided by pertinent suggestions in order to avoid the evil consequences to the fetus from opposite conditions.

There is a tendency here in America to give more and more attention to the antenatal aspect of infant mortality by the establishment of retreats for pregnant women on lines similar to those suggested by Ballantyne. No measures will be complete which do not also take into consideration the treatment of both parents for any constitutional disease, such as syphilis, which may be co-existent at the time of pregnancy. Good food, surroundings and teaching the duties of motherhood to those who are to see their first-born, will do much to reduce the mortality of this period.

Of deaths resulting from inanition, marasmus or infantile diarrheas, none can gainsay that these infants die not so much as a result of any form of feeding, especially artificial feeding, as on account of the widespread ignorance and even indifference in carrying out the methods of artificial feeding. I certainly believe that among the better situated, where nurses and intelligence can be placed at the disposal of even the premature infants, the results of artificial feeding are not by any means discouraging. With the infant at full term, I feel that from a sociologic point of view artificial feeding by a well-taught mother or nurse is even preferable to a wet-nurse. Wet-nursing as a rule means the death of the child of such a nurse; thus one is sacrificed who has by nature the right to the breast.

The propaganda for the care of the premature and the methods for conserving its strength has not reached that point, at least in America, which would encourage us to hope for better results than we now obtain. The education of the public and the physician on this subject is still to be accomplished. As previously remarked, but few maternity institutions give this subject and even that of feeding the attention it should receive. The question of infant-feeding, the encouragement of maternal nursing, and the education of the general public in methods of feeding is a problem of to-day and much has been accomplished, although much more remains to be done. Social service, milk-stations, lectures to mothers, all will in time tend to reduce this cause of infant mortality.

I have intimated that the perfection of our methods in delivery of the infant and the wide-spread adoption of methods of asepsis in institutions and among the laity have tended to reduce mortality from this cause. At the same time when we contemplate the large number of deaths consequent on operative interference during labor, it is to be feared that there is still much to be accomplished through the instruction of the physician in this direction. I feel also that many of the deaths due to diseases of the respiratory organs could well have been prevented by attention to detail in the care of the newborn.

30 East Sixty-Second Street.

Strenuous Athletics and the Heart.—The hypertrophied heart is more liable to acute cardiac dilatation than the normal heart. At the state university, during the past two years, there have been four cases of acute dilatation in athletes and only one in the non-athletes, although relatively few students take part in the major college sports. In case of severe fever these large hearts seem to be especially vulnerable. In the graduates from Annapolis it has been found that there are six times as many deaths from heart-disease among athletes as among non-athletes. If physical training is to be made compulsory in our schools and violent athletic contests are to be incited by crowds and publicity, a serious duty devolves on the medical profession to study the results carefully and, in case of each individual youth, to supply that balanced judgment concerning the value of various kinds of physical exercise which only those can have who follow human life from the womb to the winding-sheet.—C. R. Bardeen, M.D., *Wisconsin Med. Jour.*

AN EPIDEMIC OF SMALL-POX IN SONORA, MEXICO

LLOYD MILLS, M.D.
LOS ANGELES

A paper based on practical experience with small-pox and giving further striking evidence of the remarkable protective value of vaccination is never untimely. This is especially true in these days when common ignorance of the disgusting horror of the ravages of small-pox has caused so much ill-advised and even fanatical opposition to the one essential weapon against it, vaccination.

This paper is also timely in that it offers some corollaries on frequent Mexican medical abuses, the results of which may be brought forcibly to our notice in case of intervention by our country in the internal affairs of Mexico.

In October, 1912, I was in the Yaqui Valley, Sonora, engaged in making a climatic and hygienic survey of the region for a large irrigation project.

In the spring of 1912 small-pox had become epidemic in a group of towns about eighty miles to our south, but the spread had been partly limited by the habit of sleeping outdoors during the hot weather. With the cooler autumn evening the families began to herd together within their adobe huts, and because of this closer contact the epidemic renewed itself fiercely. No organized vaccination had ever been done in this region, and small-pox had always been present. No epidemic of magnitude had occurred, however, for a number of years, and the entire youth of the community offered rich virgin material for the loathsome invasion which now began. When this reached the point at which many new cases were appearing daily and deaths were frequent, a general exodus took place from these towns, spreading the disease freely in all directions, for no quarantine was attempted. After hundreds of deaths had occurred, one or two incompetent Mexican physicians in the government employ were put in charge of the situation, but did nothing to limit the contagion.

There are five pueblos in the valley lands of the Yaqui River with populations of from one to three thousand. These pueblos are named Cocorit, Bacum, Torin, Potam and Vicam. The contagion first entered the valley at the pueblo of Cocorit by means of a family which came by rail from the heart of the infected district. Before the local authorities became alarmed, about sixteen cases were scattered throughout the town, and then an incompetent French physician in the government service was placed in charge. When not intoxicated he was devising means of grafting from the town and state in collusion with the mayor and the mayor's secretary. Absurd charges were made for office rental, carriage hire and medicines. Fictitious expense accounts were created for food-supplies for whole families, and for several weeks all that was actually done toward limiting the epidemic was an infrequent visit to some of the infected homes, where spirits of camphor was given the unaffected members of the family to rub on their hands, face and clothing.

During all this time there was the freest of intercourse between the patients and all their relatives and friends, members of families with sick went freely to the church, the stores and to their usual meeting-places, and of course hygienic conditions were primitive in the extreme. Consequently the incidence of the disease rose steadily until there was a daily average of about forty cases of active small-pox and a daily death-rate of from five to twelve cases.[1]

The high mortality finally forced the authorities to a show of greater activity, so a large supply of vaccine points was procured, the date of the expiration of the vaccine being June, 1912, a date then about eight months past. Of the several hundred persons who applied for vaccination about half a dozen were successfully vaccinated, although, as I found later, about 92 per cent. of this town of nearly three thousand people, had never been vaccinated and had not had small-pox.

Finally the epidemic began to have a commercial phase, for the large outlying Mexican ranches began to suffer severely. On the large hacienda owned by one Jesus Parada, over 80 per cent. of the workmen and their families died.

At the outset of the epidemic I had thoroughly vaccinated the employees of the irrigation project itself and of the near-by American ranches (about a thousand in all), and in this well-vaccinated group but four mild cases appeared. This contrast was so obvious and amazing to the Mexican ranchers that when, to prevent United States quarantine against the region, I volunteered to rid the entire township of the pest within thirty days, without charge for my service, and asking from the town only the cost price of the necessary fresh vaccine and of the few simple disinfectants and remedies, the few of the ranchers who dared brave the wrath of the local cabal went over its head to the governor. To the Mexican mind it was incomprehensible that anybody could volunteer to do gratis any service involving intense personal activity, loss of time and considerable personal danger from disease and violence. They reasoned that some at present hidden means of extracting money would surely come to light, and it was only after repeated letters to and interviews with the government that my appointment as sanitary delegate was made.

While waiting for my vaccine,[2] I arbitrarily divided the town into quarters and had a careful census taken, with the number of persons in each family clearly indicated.

Then began a house-to-house vaccination in which each person from this census list had to be accounted for at once. Everybody was vaccinated, regardless of pockmarks or old vaccination scars, and vaccination was repeated once if unsuccessful the first time. Among the Yaqui Indians, who believe that one should take small-pox as the ordinary Mexican takes a bath, a trying procedure which must be done here once in a lifetime, there was some sharp opposition. This was aggravated by the report, traced later to the mayor, that it was my intention to kill their children. Because of this I twice narrowly escaped being stabbed, a watchful guard averting the first attack, and once I turned intuitively while vaccinating a Yaqui infant, to find the father almost on me with his knife. After being disarmed, he was vaccinated.

At the end of nine days this universal vaccination was completed, my days beginning at daybreak and lasting far into the starlight.

When the census was made 102 active cases were found in the town. Four days later when I began vaccination there were 127 active cases, and the high tide of 156 active cases was reached on the third day of vaccination. The last case of small-pox contracted within the town appeared five days after ending the vaccination, or just two weeks after the beginning of my attack on the contagion. At the time of writing this paper, Nov. 8, 1913, this well-vaccinated pueblo remains entirely free from the disease, although the surrounding pueblos without exception are being decimated. Cases have been imported, but no case has since occurred among the native resident population.

The military town of Torin, with its staff of Mexican army doctors and its constantly changing bodies of troops, suffered worst of all the pueblos. It established no quarantine, no vaccination was done, and at present the disease is running an unchecked and virulent course, which will probably continue until it has exhausted the human material. One resident stated to me that "everybody has had or is having small-pox, even to the horses."

This paper is not intended as a clinical study of small-pox. The stress of the single-handed labor was too intense to permit of anything but general impressions, except in the matter of observation of the types of disease and of data relative to the effect of vaccination, which data I was most careful to keep.

In the town of Cocorit, during the two weeks of my active campaign, there were 229 cases of small-pox with 82 deaths, a mortality of 31 per cent.; 71 of the deaths were due to purpuric small-pox between the fourth and seventh day after onset of the symptoms. Nearly all of these patients had an intense diffuse bronchitis, extensive ulcerations of the pharynx and soft palate and greatly swollen tongues. Six died from confluent small-pox. Two deaths occurred from bronchopneumonia, one from purulent inflammation of the knees, ankles, elbows and wrists with death from septicemia and two from abortion during the disease, the fetuses having no eruption.

In this town I vaccinated 2,878 persons, of which number about 5 per cent. had marks of early vaccination, and about 3 per cent. more or less distinct pockmarks. One man of 72, who had had small-pox over fifty years previously, and on whom the pocks showed clearly, was successfully vaccinated, and two other elderly people so marked, reacted, though very moderately. The group of 144 previously vaccinated persons had an average vaccination period six years past. Patients with strongly marked scars were seldom successfully revaccinated, though there were several exceptions to this. Of the total number, less than 25 per cent. were successfully revaccinated, and but two of the whole group contracted small-pox. One, a child, successfully vaccinated three months previously, died of confluent small-pox. The other recovered after a very mild attack.

Out of the entire pueblo forty-eight persons who developed small-pox were vaccinated during their stage of incubation. Thirty-nine of them recovered from mild attacks of discrete small-pox. Two recovered after severe attacks of combined vaccinia and confluent small-pox; one died of confluent small-pox and vaccinia; one died of purpuric small-pox and five died of combined purpuric small-pox and vaccinia, the vaccine having been administered too late in the last seven cases. Most of the pueblo had been exposed and numerous other persons must have been vaccinated during the first few days of the incubation period of the disease, and must have been protected from small-pox by the development of the vaccinia.

In over 80 per cent. of the 2,878 cases vaccination was successful at the first visit. Excluding the cases of previous small-pox and previous successful vaccination, less than 1 per cent. of the remainder resisted revaccination.

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[1] There was no way of obtaining accurate details of the situation at this time, for surreptitious burial was the rule and the vital statistics of Mexican towns are notoriously incorrect; hence these figures are approximate.

[2] I used only vaccine lymph in capillary tubes made by a Berkeley laboratory, for I had found vaccine points to be far less certain.

Altogether, during this experience I vaccinated over five thousand persons, practically all of whom I saw subsequently. Only rarely was a protective dressing used over the vaccination site, for I had neither sufficient time nor materials for dressings during most of this intense work. Yet even amid the reeking filth of Mexican home life there were complications following vaccination in but eighteen cases. In thirteen of these, deep ulcers developed at the site of inoculation; a baby scratched the pustule and received multiple inoculations; there were three cases of deep abscess formation and one Indian child died of tetanus following the attempts of its mother to rid the arm of vaccine by plastering it with foul mud of the village street.

This experience is remarkable because it offers so exact and specific an example of the value of vaccination, unaided by any other means, in limiting a fairly virulent epidemic of small-pox. Between the time of the onset of the disease in the pueblo and the finish of the vaccination approximately 15 per cent. of the original population must have been affected. Considering the rapid progress which the epidemic was making, as shown by the number of cases already in the incubation stage at the time of vaccination, it is reasonable to assume that practically the entire unvaccinated part of the population would have contracted the contagion eventually, just as occurred in all the adjacent pueblos. Yet within two weeks this epidemic, which had already reached alarming proportions and threatened to become most formidable, was absolutely and permanently eliminated.

1030 I. N. Van Nuys Building.

UNIVERSAL CIRCUMCISION AS A SANITARY MEASURE

ABRAHAM L. WOLBARST, M.D.
NEW YORK

Of late there has been noticeable a decided tendency on the part of some medical men, mostly pediatricians, to condemn the ancient practice of ritual circumcision. This tendency is amply demonstrated in the statement of the late Professor Maas, and apparently approved by Dr. L. Emmett Holt,[1] that "it is the duty of the physician to raise his protest against the performance of ritualistic circumcision in every case."

When we examine into the reasons underlying this remarkable dictum of Maas, we find that the opposition is based on the possibility of infections being carried to the infant by careless or ignorant operators, to whom the rite of circumcision is sometimes entrusted.

Holt[1] states that after a search through medical literature with the assistance of Drs. Alan Brown and Stafford McLean, he was able to find references or reports of forty cases of circumcision tuberculosis in addition to the case he himself cites. It must therefore be apparent when we consider the millions of Jewish and non-Jewish children who have been subjected to this ritual operation, without untoward incident, that the number of infections with tuberculosis must be rare indeed. The same is true of syphilis, the second disease which is occasionally transmitted through circumcision.

When, however, the opponents condemn the practice of circumcision, *in toto*, because of the possibility of these infections, it seems necessary to point to the other side of the picture; it is, therefore, the purpose of this paper to demonstrate that circumcision, far from being the menace that some of these observers would have us believe, is, on the contrary, a most beneficent practice from the sanitary aspect, and that it should be encouraged in every possible case, whether it be done as a ritual act or as a purely sanitary measure.

It is not my purpose to condone or even seek pardon for the acts of those who, in the performance of ritual circumcision, have spread infection of any kind whatever. These men should be regarded as unfit to practice this act, and should be debarred from performing it. The Jewish Community (Kehillah), representing nearly a million Jewish residents of the city of New York, having been made aware of the occasional infections we are discussing, is even at this moment taking steps to prevent their further occurrence by seeking to place the practice of ritual circumcision on a thoroughly modern basis. It is hoped to accomplish the desired end by the formation of a board of physicians, consisting of well-known physicians and surgeons, who will instruct the "Mohelim"[2] in surgical technic, particularly the principles of asepsis, hemostasis and general hygiene. In this way, only those who have satisfied the board of physicians of their knowledge and practice of the rules of asepsis will receive the moral sanction of the Jewish Community to perform the ritual, and thus the unfit or ignorant will be weeded out.

In fact, the Mohelim themselves have asked for such supervision and instruction. Rev. Dr. J. L. Magnes,[3] president of the Kehillah (Jewish Community), says:

> The Kehillah was approached by the Society of Mohelim for the purpose of organizing a board of recognized physicians and surgeons to whose authority in hygienic and medical matters the Mohelim were to submit. The plans of the Society of Mohelim include the formation of classes for instruction in hygiene and allied subjects, to the end that a certificate may be issued by the board of physicians and surgeons to such Mohelim as satisfy all requirements. A list of certified Mohelim in the office of the Kehillah placed at the disposal of the community would doubtless surround the rite of circumcision with all necessary safeguards.

It is, therefore, apparent that the men who perform the rite are themselves anxious to avoid any untoward accidents in the performance of this little operation, and are willing to cooperate in weeding out those who are either diseased or ignorant of the primary surgical rules of asepsis. It should be remembered that these men are remarkably skilful, as a rule, in the performance of circumcision, and I venture the opinion that their skill and dexterity in operating on infants are by far greater than that of any surgeon. This is due to their extensive experience and to the fact that they are trained to do nothing else. If, therefore, a few of them perform their duties in disregard of modern principles of asepsis, the criticism should be leveled at them, as individuals, and not at circumcision *per se*. One might just as rationally denounce the operation of laparotomy and protest against its performance, just because towels, artery clamps and other foreign bodies have been left in the abdominal cavity by careless surgeons.

The infections with syphilis and tuberculosis, when they do occur, are caused by these few Mohelim who still adhere to the ancient practice of stopping the bleeding by sucking the edges of the wound. But this practice is merely a relic of ancient times, and most of the modern operators never do it. I am informed by several rabbis and Mohelim that neither the ritual nor the rabbinical law demands that the wound shall be sucked, if another method of hemostasis can be safely employed. In this connection, Rabbi H. Pereira Mendes[4] of New York writes:

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[1] Holt, L. Emmett: Tuberculosis Acquired through Ritual Circumcision, The Journal A. M. A., July 12, 1913, p. 99.

[2] "Mohelim" is the plural of "Mohel," by whom the rite is performed.

[3] Magnes, J. L.: Fourth Annual Report of the Kehillah (Jewish Community), April, 1913.

> Less than a single century ago, hemostasis by hot oil or hot pitch was countenanced by accepted surgery. It required time to bring about changes to modern methods. Much less time will be required to improve the methods complained of in "ritualistic" circumcision, particularly when we remember not only that many Jewish operators in America use modern methods of asepsis, and that in such countries as England, France, Germany and Scandinavia they may not otherwise practice, but also that the Jewish religious law insists on every precaution in matters of health and demands that when "Sekanah" or "danger" to health is critically involved, any religious custom and any duty not may, but must, be overridden.

I have the assurance of Rabbi Philip Jaches of New York, who has successfully performed more than seven thousand ritual circumcisions, that the ancient practice of sucking the wound is considered obsolete, and that cotton and gauze, wet with antiseptic solutions, are being commonly used for hemostasis.

In view of these facts, I feel justified in saying that the rite of ritualistic circumcision should not be condemned, but rather those who perform it in contravention to the modern rules of asepsis and the spirit of the Jewish law. That these faulty operators are few and gradually disappearing must be evident by the generally increasing demand on the part of parents for modern surgical methods in the performance of the rite.

At present, however, I am principally concerned with the operation of circumcision as a necessary sanitary measure. Not only am I heartily opposed to any curtailment of the practice of ritual circumcision, but I also advocate its universal employment in all male children, whether Jewish or Gentile, from a purely sanitary and health-giving point of view.

My attention was first attracted to this subject some years ago, when I saw the striking difference in the amount of local venereal ulcers treated at the Good Samaritan Dispensary and the Beth Israel Hospital, at which the patients are almost entirely Jewish, as compared with the vastly larger proportion which I saw while working with Chetwood at the Polyclinic Hospital and in my own service at the West Side German Dispensary, at which nearly all the patients are non-Jewish. Not only was the proportion of syphilis and chancroid much less among circumcised patients, but also the general cleanliness of the parts and the absence of serious local complications due to the presence of a foreskin, made a lasting impression on my mind, with the result that universal circumcision is, in my opinion, an absolute necessity, when we consider the general welfare of the race. Specifically, my reasons for advocating universal circumcision are as follows:

1. It is a great aid to cleanliness of the genitals.
2. It is a decided prophylactic against infection with syphilis and chancroid.
3. It prevents in great measure the development of venereal warts, herpes, epithelioma and other growths.
4. It offers a diminished tendency to masturbation, nocturnal pollutions, convulsions and other nervous results of local irritation.
5. It diminishes local complications in the presence of venereal diseases.
6. It makes the "fourth venereal disease" impossible.
7. It prevents the development of phimosis and paraphimosis, with their attendant complications.

Let us consider these items at greater length:

I. AN AID TO GENITAL CLEANLINESS

Surely, any one who has worked in a male clinic must have observed that very few of the uncircumcised, at least among the poor and middle class, pay proper attention to the cleansing of their genitals. Times innumerable, in my experience, the stench arising from the confined and retained balanic secretions has been almost unbearable, even in the absence of any particular disease. Add to this the increased element of inflammation in balanitis associated with any one of the venereal diseases, and the argument for circumcision as a measure of hygiene must be apparent to any but a man deprived of his olfactory sense. Not infrequently adhesions form between the glans and the prepuce; in these cases, retraction is next to impossible and there is a constant accumulation of the secretions, with all that the term conveys. I have encountered hundreds of men who have seldom or never retracted the foreskin for cleansing purposes.

II. AS A PROPHYLACTIC AGAINST SYPHILIS AND CHANCROID

I am a firm believer that men who have been circumcised are less prone to infection with these diseases because of that fact. It is not necessary to go into a discussion of the obvious reasons for this view; suffice it to say that this view is also held by most authorities on venereal infections, as I shall show below. For further substantiation of this belief, I have searched my private records, with more than striking result. The records of 800 patients treated in my office were studied; of these, 400 were circumcised and 400 uncircumcised. In order to determine whether or not the Jewish (circumcised) patients suffered equally with their Christian (uncircumcised) neighbors from syphilis and chancroid (gonorrhea not being considered), I found the interesting data given in the accompanying tabulation.

SYPHILIS AND CHANCROID IN THE CIRCUMCISED AND UNCIRCUMCISED

CIRCUMCISED PATIENTS

Disease	Cases	Per Cent.
Gonorrhea	321	78
Syphilis and chancroid	79	22
Total	400	

UNCIRCUMCISED PATIENTS

Disease	Cases	Per Cent.
Gonorrhea	238	59
Syphilis and chancroid	162	41
Total	400	

It will thus appear that of 400 circumcised patients, 78 per cent. sought treatment for gonorrhea and 22 per cent. for syphilis and chancroid; whereas of the same number of uncircumcised patients, 59 per cent. sought treatment for gonorrhea and 41 per cent. for syphilis and chancroid. The difference must be strikingly convincing. Many years ago Hutchinson observed in the Jews' quarter of London that the proportion of Jews to Christians among the out-patients was as one to three; at the same time, the proportion of cases of syphilis in the former to the latter was one to fifteen.† It has also been pointed out by Hutchinson, Fournier, Clerc and other authorities[5] that the foreskin is the favorite site for about 75 per cent. of primary chancres. These data show conclusively that there is far more syphilis among the uncircumcised than among those who have been circumcised. Nevertheless, it may be charged that figures can be distorted to prove almost any contention. In order, therefore, to forestall this possible criticism of the data just quoted, I have fortunately been able to secure the opinion of professional colleagues in various parts of the country, whose experience in the treatment of diseases peculiar to men has enabled them to determine whether or not their uncircumcised patients were more often infected with syphilis and chancroid than those who had been circumcised. In response to my inquiry, these gentlemen kindly wrote as follows:

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[4] Mendes, H. Pereira: Correspondence, The Journal A. M. A., Sept. 6, 1913, p. 786.

L. Duncan Bulkley, New York: I have observed a very much larger proportion of syphilis and chancroid among the uncircumcised than in those who have been circumcised.

E. G. Ballenger, Atlanta, Ga.: I regret that I have not statistics which bear directly on this point. The tender, often macerated, condition of the quasimucous membrane of the glans penis and foreskin, especially in the region of the frenum, undoubtedly affords a more favorable site at which organisms may gain entrance than does the hardened skin of the circumcised. The abrasions and so-called "hair cuts" are also more likely to occur in the uncircumcised than in the circumcised. More than 75 per cent. of cancers of the penis are observed when phimosis exists in the uncircumcised. Masturbation appears to be less prevalent in the circumcised.

F. Bierhoff, New York: I would say that although I have not kept any statistics with reference to the relative frequency of syphilis and chancroid among the circumcised and the uncircumcised, I am positive that both of these diseases are more frequently encountered among the latter class. This is particularly true of chancroid.

Charles H. Chetwood, New York: Highly in favor of the operation of circumcision as a sanitary measure.

Hugh Cabot, Boston, Mass.: I have no doubt that these infections are less common in proportion to exposure in the circumcised than in the uncircumcised.

B. C. Corbus, Chicago: You know as well as I do, that for hygienic measures, circumcision should always be advised. In regard to the occurrence of infection in those that are not circumcised as compared with those that are, I am truly unable to draw any definite conclusions. The "fourth disease" is absolutely one infection that cannot exist on an individual who has been properly circumcised. As the infecting organism is anaerobic it must require a closed foreskin for the growth of the organisms.

B. Erdman, Indianapolis: There is a question in my own mind as to the question of circumcision preventing, so to speak, gonorrhea and chancroid. I don't believe the uncircumcised suffer more from these infections than the circumcised, but in syphilis the matter is entirely different. I want to say that in the last thirty-three cases of syphilis, recent infections, having seen the sore from three to eighteen days after appearance (no extragenital lesions considered), twenty-seven were in uncircumcised patients and six were in circumcised (four were Jews). There is no doubt in my mind but that circumcision and plenty of soap and water are valuable in the prevention of lues.

George Henry Fox, New York: Many years ago I noticed in my clinics *that circumcised patients rarely appeared with* local venereal diseases. I still have the impression that the prepuce, in a certain class of patients, predisposes to infection with chancre and chancroid, although I have no data to offer on which a ratio of immunity could be based.

Eugene Fuller, New York: I think very favorably of circumcision as a sanitary and prophylactic measure. I think there is more syphilis and chancroid among the uncircumcised. I cannot state offhand the proportion. The preputial orifice and the mucous surface of the parts removed in all instances of properly performed circumcision are the prevailing seat of venereal sores among the uncircumcised. Abrasions during coitus, without which chancre and chancroid cannot result, occur much less frequently in connection with those properly circumcised than in connection with those who are not. Then again circumcision removes all danger of balanitis. All persons afflicted with balanitis in a severe or chronic grade present a raw surface at all times. Consequently such men can hardly escape being inoculated with a venereal sore in sexual contact with an infected woman.

M. L. Heidingsfeld, Cincinnati: I believe that the uncircumcised is more susceptible to the initial lesion of syphilis and chancroidal infection for the following reasons: Abrasions and macerations, the open door to infection, are more common in the latter for mechanical reasons and lack of cleanliness. Again, I consider the normal unbroken skin the surest protection to exposed infection. Although syphilis and soft chancre infection is by no means of rare occurrence in my circumcised clientele, and possibly equally large, for personal reasons, with that of the uncircumcised, it is evident to me that the circumcised temperamentally are more given to lascivious vice and expose themselves to a greater degree than the uncircumcised.

F. J. Leviseur, New York: Looking back over a large experience of many years, I may state as my belief that the Judaeus Apella is less frequently affected with chancroid. It is not so however, with syphilis. I believe that the latter occurs fully as often in those who have been circumcised as in those who have not, if not oftener.

H. H. Morton, Brooklyn: I am thoroughly in favor of circumcision as a hygienic measure and also as a prophylactic against infection with venereal disease, particularly chancroid and chancre. I have also noted that in the great number of amputations of the penis which I have done for epithelioma of the glans the patients, with but one exception, always had long foreskins.

E. Wood Ruggles, Rochester, N. Y.: Since engaging in private practice here fifteen years ago, I have observed a much smaller proportion of chancres among Hebrew patients, who constitute a rather large part of my clientele, than among Gentiles. As to a definite ratio I cannot state positively, but should say that, roughly speaking, not over a fourth as many cases of penile chancres and chancroids occurred among the circumcised. There can be no doubt that the cleanliness, the *freedom from balanitis and herpes and the toughened condition* of the skin caused by constant friction against the clothing produces a very decided protection against these diseases.

G. K. Swinburne, New York: When I first took my clinic at the Good Samaritan Dispensary in 1889, I had been working in several other clinics. I had also spent six months in Vienna in the clinics there. After I had been working for some time at Essex Street, I noticed that in proportion to the amount of gonorrhea I was treating, I was not getting anything like the proportionate amount of chancroid and syphilis that I saw at Chambers Street, or the Vanderbilt or Presbyterian clinics. This was very noticeable, and I believed it to be due to the fact that the vast majority of my Essex Street patients had been circumcised. Since 1889 I have not had occasion to change my views. I should not wish, however, to attempt to state proportions in figures, suffice it to say that the difference was very striking.

H. J. F. Wallhauser, Newark, N. J.: By far the greater number of initial lesions that have come under my observation were located in the prepuce. I have also several times traced an infection to a preexisting herpes preputialis, and very frequently patients have informed me than an abrasion occurred during coitus which healed rapidly and was followed by the appearance of the initial lesion on the site of the injury. Deducing that the uncircumcised are more susceptible to superficial injuries on account of a mild form of inflamma-

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† Remondino, P. C.: History of Circumcision, Philadelphia, F. A. Davis Company, p. 192.

[5] Alexander: Die Hygienische Bedeutung der Beschneidung, Breslau, 1902.

> tion which is nearly always present, especially in men in whom the glans is completely covered, there can be very little doubt as to the greater liability to infection in this class of individuals.
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> M. W. Ware, New York: I am wholly unbiased in my opinion when I say that circumcision is absolutely no safeguard against any of the venereal diseases that human flesh is heir to and which exist in equally as large a number among the circumcised as those not circumcised. Thus I have seen in twenty years of dispensary and hospital practice a surprisingly large amount of syphilis in its late manifestations (tertiary) among the parent stock of the emigrant Russian Jew, as well as recently acquired syphilis in the sons of the next generation. Perhaps the chancroidal infections are not quite so common, and though your inquiry did not cover gonorrhea, I venture the opinion that the organism of Neisser does not discriminate between the urethras of circumcised or uncircumcised penes. The following personal experience may interest you: Recently the son of orthodox Jews, a graduate of Harvard, whose son I was about to circumcise, told me that he was having the ritual done surgically at least, to appease the irate grandfather (paternal), but forthwith he proceeded to rouse the ire of said grandparent by telling him that circumcision was a relic of barbarism in so far as it signified a sacrifice on the altar of God which called for an offering of lamb's blood, but for which the blood of the new-born male on the tenth day was substituted by the performance of the circumcision. I could cite many more reasons which speak against circumcision from any point of view. In conclusion, I would be quoted as characterizing circumcision as a fetish surviving from ancient times.

To these views may be added the opinion expressed by G. Frank Lydston,[6] Chicago:

> Circumcision is a most commendable practice. Whatever religious views one may hold, it must be conceded that Moses or whoever devised the operation was a hygienist of no mean pretensions. The Jews are social hygienists in many ways, some of which might well be imitated by the Gentiles, but none of their religious customs is quite so sensible as the rite of circumcision. Circumcision promotes cleanliness, prevents disease, and by reducing oversensitiveness of the parts tends to relieve sexual irritability, thus correcting any tendency which may exist to improper manipulations of the genital organs and the consequent acquirement of evil sexual habits, such as masturbation.

I may likewise add the opinion of E. M. Corner,[7] the well-known English surgeon, who is a firm believer in the value of circumcision, as is evidenced by these words:

> For choice, it (circumcision) is an operation which should be done in early babyhood. Then the operation is borne well, giving the minimum of discomfort, no anesthesia is required, and usually no stitches. Up to 6 months of age, a healthy baby is very easily nursed, as it leads, more or less, the life of a vegetable: feeding and sleeping. On the other hand, there is no doubt that many cases of apparent phimosis in babies get well from the natural stretching of the prepuce by erections. In spite of this, I would strongly urge that this little operation, when advisable, is recommended at this age on sanitary and moral grounds; all hypothetic arguments being avoided. . . . Whenever possible, it should be done as early as the child's condition permits.

A careful perusal of the views herein expressed must be convincing, to say the least, of the great value of circumcision as a sanitary measure. Detailed comment on the individual views seems altogether unnecessary. It may be pointed out, however, that there is a practical unanimity on the part of those who have kindly expressed their opinions as regards this question. The one dissenting voice is that of Dr. M. W. Ware, and with all the deference due to my one-time preceptor, I cannot but feel that his opposition to circumcision is based on other than scientific grounds. Even assuming for the moment that his Harvard friend is correct in his weird statement that circumcision was regarded as a substitute for the "sacrifice on the altar of God" (which is not true), I cannot see how that has any bearing on the present-day value of circumcision as a sanitary measure. To close our eyes to the utility of this little operation because it is a relic of ancient times brings to mind the similarly ancient custom of biting one's tongue to spite the nose. If there is any objection to circumcision, it should be based on valid, scientific grounds, and it is to be regretted that so capable an observer as Dr. Ware has not offered any objection more convincing than that "it is a fetish surviving from ancient times."

It must be apparent, however, that the vast preponderance of modern scientific opinion on the subject is strongly in favor of circumcision as a sanitary measure and as a prophylactic against infection with venereal disease. Whatever objections have been raised owing to the improper performance of the operation should not militate against circumcision *per se*, but against those persons who fail to do it properly.

III. AS A PROPHYLACTIC AGAINST VENEREAL WARTS, HERPES AND EPITHELIOMA

There can be no question that the development of venereal warts and herpes is favored by the presence of a foreskin and a chronic balanitis. The instances in which they are seen in a circumcised patient are rare indeed. They are usually found just behind the corona, in conjunction with a more or less irritated foreskin.

The late Jonathan Hutchinson stated as his belief that phimosis and balanitis lead to cancer of the penis. This view is likewise held by innumerable observers who have had the opportunity of studying the relationship between the chronic inflammatory condition existing in the presence of balanitis and the development of this form of cancer. All writers agree that penile cancer in the circumcised is exceedingly rare. I need but recall the remark of Dr. H. H. Morton, previously quoted, to the effect that all but one of the patients in whom he amputated the penis for cancer were blessed with long foreskins. Chetwood, in his latest work,[8] states that the percentage of cancer of the penis "in those of the Hebraic race is strikingly small." One need not stretch the imagination too far, to realize that the constant friction and irritation occasioned by the presence of a foreskin, particularly a tight and long one, may act as an exciting cause of cancer in men predisposed to this disease. Especially is this true of the ignorant and poorer classes, who are not overclean, and who, apparently, are not instructed in their youth by their parents or guardians as to the necessity for an occasional cleansing of the preputial cavity. Barney,[9] basing his observations on a study of one hundred unselected cases of penile epithelioma, concluded that phimosis is preeminently the most important of its exciting causes, occurring in over 85 per cent. of cases. It is worthy of note in this connection that there was not a single Hebrew among the hundred patients, a fact which an editorial writer[10] considers a "most convincing argument in favor of circumcision in an adult whose prepuce cannot be easily and completely retracted." Surely if circumcision is indicated at all, the time to perform it seems to be before the child becomes an adult and runs the risk of cancer.

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[6] Lydston, G. Frank: Sex Hygiene for the Male, Chicago, Riverton Press, 1912.

[7] Corner, E. M.: Male Diseases in General Practice, London, Oxford University Press, 1910.

[8] Chetwood, C. H.: The Practice of Urology, New York, William Wood & Co., 1913.

[9] Barney: Ann. Surg., December, 1907.

[10] Med. Rec., New York, Feb. 15, 1908.

For the further information of those who regard circumcision as a relic of barbarism without any redeeming value, it is interesting to note that Bashford[11] says:

> Similar conclusions have been arrived at by a consideration of cancer of the penis, which is extremely frequent in some races, and very rare in others living side by side with them. The frequency of cancer of the penis is apparently associated with chronic irritation due to the accumulation of dirt and secretion under the prepuce, whereas it is practically unknown in Mohammedan races who practice circumcision.

IV. AS A PROPHYLACTIC AGAINST MASTURBATION

It is a well-known fact that the foreskin is a frequent factor in the causation of masturbation, not alone in children, but *in adults as well.* This has been amply proved by the fact that circumcision has become recognized as a most effective remedy in these cases. The glans in the uncircumcised is highly sensitive, and this, combined with the constant friction of the prepuce and the accumulation of the secretions, brings on a condition of irritation which is often relieved only by manipulation and scratching, with the result that masturbation becomes more or less of a habit.

A repetition of a paragraph from Lydston (already quoted) may be pardoned in this connection. He says:

> Circumcision promotes cleanliness, prevents disease, and by reducing oversensitiveness of the parts tends to relieve sexual irritability, thus correcting any tendency which may exist to improper manipulations of the genital organs and the consequent acquirement of evil sexual habits, such as masturbation.

Furthermore, it is generally accepted that irritation derived from a tight prepuce may be followed by nervous phenomena, among these being convulsions and outbreaks resembling epilepsy. It is therefore not at all improbable that in many infants who die in convulsions the real cause of death is a long or tight prepuce. In a case reported by A. H. Baker[12] of Elmira, N. Y., repeated attacks of epileptiform convulsions occurred in a boy aged 5. It was found that there was an adherent prepuce with marked adhesions. After the child was circumcised the convulsions ceased and have not since recurred.

A similar case is reported by Gowers,[13] the famous neurologist, as follows:

> A boy aged 13 had suffered from fits for fifteen months, which commenced with a sudden start of considerable violence, and immediately his legs became strongly flexed, and his trunk bent forward with the head between the knees. He had twelve or fourteen fits a day on various treatments. It was then found that he practiced masturbation; a blister on the prepuce reduced the fits from two to seven daily. He was then circumcised, and the attacks ceased at once, and did not recur.

Gowers also adds,[13] in discussing the treatment of epilepsy:

> Circumcision, if effectually performed, is usually successful, and should be adopted in all cases in which there is reason to associate the disease with masturbation.

We have the further testimony of Moll,[15] who confirms the general opinion that phimosis induces to masturbation. To quote:

> We have further to take steps to allay as far as possible all kinds of local irritation of the genital organs. Among these may be mentioned phimosis and skin eruptions of the genital region, which latter may lead to scratching, and so give rise to masturbation, even apart *from* the fact that the itching itself may favor the occurrence of voluptuous sensations.

With these authoritative observations in mind, we may safely conclude that circumcision is to be regarded as a powerful prophylactic against masturbation and other reflex neuroses that result from preputial irritation.

V. AS A PROPHYLACTIC AGAINST LOCAL COMPLICATIONS IN VENEREAL DISEASE

Surely it is not necessary to offer more than the mere statement of fact, to convince an unprejudiced mind *that circumcision* prevents local complications in the presence of venereal disease. The experience of any one who has treated venereal diseases in a large clinic which is patronized by uncircumcised men of the lower and poorer class is sufficient for the purpose. Balanitis, with its accumulation of natural and pathologic secretions within the cavity of the prepuce, is a complication of such common occurrence as to be expected in every uncircumcised patient. Worse than that, when the prepuce is somewhat longer and tighter than usual, chancres and chancroids may and often do remain long undiscovered, hidden in a mass of unspeakably foul and necrotic matter. Inflammation of the adjoining glands is the natural sequence of the retention and absorption of these unclean secretions. In this connection it is well to remember that there must be cases innumerable. in which syphilitic and chancroidal infection has been spread unwittingly in coitus, as the result of these venereal ulcers, hidden in the preputial cavity. Not infrequently, too, the retention and inflammation become so acute as to produce extensive ulceration and necrosis of the glans and the foreskin itself. Altogether, the picture is a striking and compelling argument in favor of the circumcision of all males, irrespective of whether the foreskin might in adult life be long or short, tight or loose.

VI. AS A PROPHYLACTIC AGAINST BALANITIS

It naturally follows, as Dr. Corbus has mentioned in his statement, quoted before, that in the absence of a foreskin, this form of preputial inflammation is impossible. This condition was first described by Bataille and Berdal,[16] and later confirmed by Scherber and Müller.[17] The etiologic factors are a tight foreskin, which excludes the air, joined with a symbiosis of an anaerobic vibrio and a spirochete. Corbus and Harris,[18] in an extensive study of this disease, remark that this condition may cause deep and wide-spread gangrene, and that "as a prophylactic measure the practice of circumcision should be encouraged; it is absolutely impossible for balanitis to exist in an individual who has been circumcised." To those who condemn circumcision, a brief experience in a clinic located in a neighborhood in which the uncircumcised live and come for treatment must be suffi-

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11. Bashford: Third Scientific Report of the Imperial Cancer Commission, quoted by E. M. Corner (Footnote 7).
12. Baker, A. H.: *Med. Era, January, 1910.*
13. Gowers, W. R.: Epilepsy and Other Convulsive Diseases, Philadelphia, P. Blakiston, Son & Co.
15. Moll, Albert: The Sexual Life of the Child, New York, the Macmillan Company, 1912, p. 307.
16. Bataille and Berdal: La balano-posthite erosive circinée, Méd. mod., 1891, ii, 340.
17. Scherber and Müller: Arch. f. Dermat. u. Syph., 1905, lxxvii, 77.
18. Corbus, B. C., and Harris, F. G.: Erosive and Gangrenous Balanitis, The Journal A. M. A., May 8, 1909, p. 1474.

ciently convincing, if their olfactory nerves are normal, that the fourth venereal disease is in itself the best possible argument for universal circumcision.

VII. AS A PROPHYLACTIC AGAINST PHIMOSIS AND PARAPHIMOSIS

What has already been said in favor of circumcision must apply with equal force in reference to the occurrence of phimosis and paraphimosis. Here we have a purely mechanical condition to deal with—one which cannot exist in those who have been properly circumcised. Joly,‡ the French surgeon, estimates that fully 12 per cent. of all infants present a congenital phimosis at birth. It is conceded even by those who condemn ritual circumcision that in the presence of either of these conditions, circumcision is imperatively indicated: conversely, it is apparent that the only way to prevent their occurrence, with all the ills that go with them, is to circumcise all male children.

In elderly men, with the passing of the sexual function, the prepuce undergoes involution with the rest of the genital organs, and as a result, retraction becomes more and more difficult. Chronic phimosis is the outcome, bringing with it a retention of secretions, masturbation for the relief of the irritation, and occasionally the deposit of urinary salts in the preputial cavity and the formation of preputial calculi. In this connection, Corner[7] says:

> Sometimes the timely operation of circumcision does much to save a patient and his friends from remorse, misery and perhaps, shame. Much might be done for the comfort of the individual, and the happiness of mankind in general, if circumcision of the elderly were more frequently undertaken.

Zuckerkandl of Vienna reported thirty cases of preputial calculus, and Velpeau found a stone in the preputial cavity which weighed 130 gm.[5]

It is also interesting to note that the condition of bilharziosis is strongly associated in the literature with the presence of a prepuce. It is the opinion of some writers who have observed this disease that the bilharzia is not taken into the stomach, but that it enters the body through the urethra while the patient is bathing. This is the opinion of J. F. Allen,[19] who has practiced for years in Natal, Africa, and who, in a lengthy discussion of this disease, advises circumcision as the best method of preventing the infection.

Another point of interest worth remembering in connection with the subject of phimosis is that this condition often leads to the maldevelopment, or rather to the lack of proper development, of the sexual parts. It is not unusual to find, in a man otherwise large and well-built, a distinctly infantile development of the external organs. In such cases a tight or long foreskin will almost always be found, and if in these cases circumcision is done, the organ will often take on a startlingly sudden growth. In my own experience I have encountered at least a dozen instances in which this lack of development has been corrected by the performance of circumcision. Lydston,[6] in commenting on this feature of phimosis, says:

> Early circumcision insures proper development of the parts. It is a matter of common observation among physicians that the Jew is, on the average, less frequently sexually maldeveloped than the Gentile. The admirable custom of circumcision may have had much to do with the extraordinary virility and endurance of the Jews.

CONCLUSIONS

In closing this review of the subject, I venture the opinion that there is much to be said in favor of circumcision and very little, or practically nothing, against it. The most that can be said against the operation as a routine measure is that it is sometimes done improperly, with the result that infections of a serious nature follow. This, however, is a matter that should be considered solely in connection with the performance of the operation, and not with the operation itself. If there are men performing circumcision who are tuberculous or syphilitic, and who, because of their ignorance, spread infection to the infants on whom they operate, they should be taken in hand and weeded out by such means as may seem most practicable and feasible. But to condemn circumcision itself because of that fact seems to me to be worse than childish.

Circumcision must be considered one of the most beneficent measures ever devised for sanitary purposes *in human beings, and it is to be wondered at that there* should exist, at this late day, physicians who stand ready to condemn the practice.

It is indeed a curious fact that many, if not most, of those who oppose ritual circumcision are themselves Jews, and I can recall a conversation with an eminent physician, the son of a famous American rabbi, who boasted that he would not permit his sons to be circumcised. It seems passing strange that men should go so far in their worship of the unattainable as to forget that "all that glitters is not gold," even though it be such a worthy appendage as a prepuce. They also seem to forget that the Tenth Commandment specifically forbids us to covet that which our neighbor possesses, and in this general prohibition, we may surely include the prepuce, which the famous master Ricord designated as a "useless bit of flesh."[20]

The pediatricians who see the evils of faulty circumcision or infections resulting therefrom should remember that they see only the exceptional cases in which the normal and usual result has not been attained. They should also remember that circumcision attains its greatest usefulness in adult life, and particularly when the individual is brought into contact with venereal infections. To those who are called on to treat the diseases acquired by men in maturity, the picture is entirely different from that seen by the pediatrist. The advantages which circumcision brings are best seen, not in childhood, but when the child becomes a man, when the pediatrist has lost track of him.

Quoting Lydston again:

> It is strange that with the experience and example of this great race (Jewish) before him, the Gentile has not generally adopted as a hygienic custom the operation of circumcision. *It is the opinion of many eminent physicians that parents who do not have an early circumcision performed on their boys are almost criminally negligent. In this opinion I fully concur.*[21]

With this emphatic statement of belief and many others from non-Jewish sources and confirmed by the preponderance of expert opinion, I do not hesitate to conclude, notwithstanding the teachings of Maas and his supporters, that it is the moral duty of every physician to encourage circumcision in the young—and it is immaterial whether it is done as a religious rite or as a purely sanitary measure.

113 E. Nineteenth Street.

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‡ Joly: Histoire de la Circoncision. Paris, 1895.

[19] Allen, J. F.: Lancet, London, May 8, 1909.

[20] Remondino: History of Circumcision, p. 206.

[21] Italics in original.

HYSTERIC BLINDNESS OF BOTH EYES IN ELDERLY MEN

L. NEWMARK, M.D.
SAN FRANCISCO

It is commonly asserted that hysteria is chiefly observed in young persons and in females. As for the element of sex, the impression left on me by my own experience is that the preponderance of females among the sufferers from hysteria in general is not sufficient to flatter greatly the males. Anesthesia, paralysis, contracture, aphonia, double personality, etc., have been observed by me often enough as manifestations of hysteria in men to cause me to doubt a much greater susceptibility to the disease in women. The two cases of hysteric blindness, presently to be recorded, helped to confirm the doubt. I have had only one case of (unilateral) hysteric blindness in a woman to oppose to these. This numerical relation is not in accord with the aggregate experience deduced in 1902 from the literature of the subject by Kron.[1] He found that among 23 cases of unilateral hysteric blindness there were 7 males to 16 females, and in 26 cases of bilateral blindness the proportion was only 4 males to 22 females. Kron, however, overlooked the two cases reported by Barkan[2] of San Francisco, in 1894; had he included them, there would have been 6 instead of 4 males to 22 females. If these figures are to be trusted to illustrate the relative liability of men and women to hysteric blindness of both eyes, they may also be used to show that one-third of the men so afflicted are to be found in San Francisco — a preposterous conclusion of the kind easily drawn from small numbers.

In respect to age, the two cases herein to be dealt with seem to be even more anomalous, for one of the patients had reached an age equal to that of the oldest patient with hysteric blindness — unilateral in that case — of whom I have found mention, and the age of the other exceeded his by six years. Their ages, being uncommon in the circumstances, make their cases interesting; and, coinciding as they do with that period of life in which the effect of time on the blood-vessels of the nervous organs may be revealed by grave and not altogether dissimilar impairment of functions, they make the cases important.

Case 1.—Captain D, an Irishman, aged 60, was led into my consulting-room, apparently blind, Dec. 16, 1905. Until shortly before he had been master of a coasting steamer. He related that he had first noticed about two or three months before this visit that his vision was failing. He could see certain red and green lights at first 6 miles off, then only 5, then 4, then 3. It was the green lights especially that had given him trouble. He had suffered no emotional strain at all until he thought that his sight was failing. Then he worried a great deal, became almost sleepless, and had severe headaches. It was only when he was looking at the lights, however, that he had been conscious of any defect in his vision until, on awakening one morning, two weeks before he was brought to me, he found that he was "totally blind." He had not had lues. Alcohol had been taken moderately. His mother had been a chronic lunatic.

The patient was a man of robust body. Whether led, or feeling his way by himself, his behavior was that of a blind person. Yet he admitted that he was not in total darkness; rather there was a dense fog around him. He could look straight into the bright sun without inconvenience. When the rays of a strong light were focused on the pupils with a lens or mirror, he had a perception of light. Flashes of light were also perceived when a galvanic current was closed or interrupted while the anode was applied to the back of the neck and the cathode to one or the other temple. The pupils reacted promptly to light; their consensual reaction was also distinct. The backgrounds of the eyes were normal. The corneal reflex of the right eye was equal to that of the left, but there was a hypesthesia extending over the right half of the head and trunk and the right extremities. A tuning-fork on the vertex or on the forehead was heard only in the left ear. The tests of smell and taste gave varying results. The deep reflexes and the plantar reflexes were perfectly normal on both sides. The abdominal reflex, which was faint on the left, was absent on the right.

This hemihypesthesia, of which the patient had been unaware until the examination revealed it, was regarded as hysteric, and the lack of sight was considered to bear the same character; wherefore positive assurance was given that vision would be regained and varied suggestion was used to compass that end. In a few days he declared that the mist had become less dense, but he saw things still only as shadows; the five fingers of the observer's hand, for instance, being held up before him appeared as five objects the nature of which he could not discern. Later, red and green could be distinguished as darker and lighter "shadows," the red being the darker "black," and a pronounced green was distinguished as a deeper shade of the same color as a pale green tint which had been submitted to him; but on Jan. 4, 1906, the day on which I last saw him "blind," he still walked like an ordinary sightless person, and, having once come without a guide, he related, on his arrival, that he had fallen into an opening in the sidewalk.

His visits ceased abruptly. After an interval a message was brought that he was an inmate of the U. S. Marine Hospital and could not come because he had no one to lead him. It was therefore probable that not much progress had been made toward a useful degree of vision, if indeed he had not lost what little he had regained.

The next intelligence concerning him was derived from a morning newspaper of Feb. 19, 1906, which, straining its vocabulary of the weird and wondrous, related that a man who had been detained for a week at the Receiving Hospital in the city of Oakland, a mystery to himself as well as to the physicians there, because he had no knowledge of his personal identity, being ignorant even of his own name, had, the day before, suddenly regained this knowledge and now stood revealed as Captain D., but Captain D. no longer blind. In the afternoon this was verified by the patient himself who came in, loudly proclaiming that he could "see perfectly." He was as elated and grateful as one might be who had recovered his vision after a blindness of organic origin, and in his enthusiasm spontaneously offered to submit to any tests we might desire for the study of his case. And on the following day he did permit Dr. W. E. Hopkins to determine, preliminarily, that without correction his vision was from 20/60 to 20/70, with plus 0.5 it was 20/30 in the right eye and with plus 1 it was 20/30 in the left, and that the visual fields were contracted about 10 degrees for blue and green and 20 for red. Then he disappeared again from my view—this time forever. It was soon afterward explained by a friend of his that the exacting duties of some employment which the captain had obtained left him no leisure to fulfil his promise. Later we learned from the same source that he had relapsed twice into blindness, which recurrences finally depressed him so much that on March 1, 1909, he committed suicide.

The calling of a mariner and the age of 60 years are circumstances that do not comport with the current notions of hysteria. In combination with the patient's severe headaches they may have diverted suspicion of the true nature of the man's blindness from the mind of one oculist, who had previously found a tubular field of vision and had based on it an unfavorable prognosis, and may have deluded another into assuming a "*tumor* behind the optic chiasm." The hardy temperament which we are wont to ascribe to those who follow the sea must have been vitiated in this instance by a hereditary influence derived from the mother, who became incurably insane. Toward dissociating the conception of susceptibility to hysteria from the imputation of effeminacy or pusillanimity it may be well to mention that one of Barkan's patients, a mining engineer, had proved his courage in the pursuit of lions and in combat with savages in the wilds of Africa.

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[1] Kron: Hysterische Blindheit, Neurol. Centralbl., 1902, p. 584.

[2] Barkan, A.: Festschrift des Vereins deutscher Aerzte zu San Francisco, 1894, p. 10.

The headaches from which the patient suffered before losing his sight were calculated to excite an apprehension of serious cerebral mischief of an organic nature, but writers[3] on the subject have pointed out that blindness has occurred especially in those cases of hysteria in which headaches and encephalic symptoms predominated.

Case 2.—An English clergyman, aged 54, having been until then in good health, was stricken suddenly, while in his pulpit, on Sunday, Oct. 24, 1909. "He became completely blind at once," his physician wrote, "but did not fall or lose consciousness." (At the consultation subsequently it was stated more precisely that he became blind, regained his sight, and then lost it again.) "He was able to continue the service," the history proceeds, "and was then led out. Left arm and leg numb and weak, but not helpless. At the end of twenty-four hours hemiplegia more nearly complete, but he has always been able to move the limbs of left side a little. Occasional clonic convulsions in left leg the first day. Can feel touch, but not pain. Tongue in median line, speech and swallowing intact. . . . Pupils dilated equally, and stationary. Sight absent. Extra-ocular muscles and brow and face muscles not affected. No pain except in eyes when exposed to light."

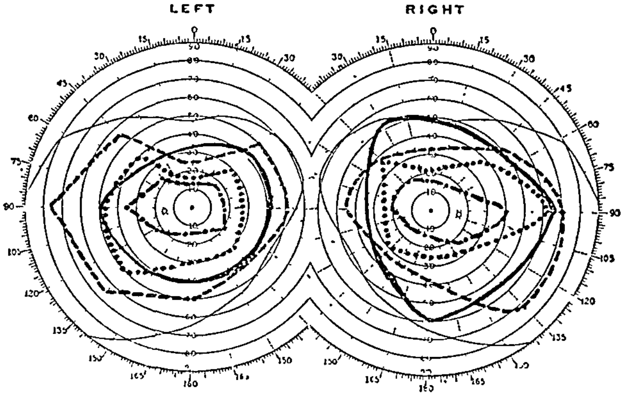
Ten days later it was reported: "Patient has been confined to a dark room on account of photophobia." The pupils were now stated to react to light; the patient could perceive a difference when light entered the room and light no longer gave him pain. There had also been an improvement in the motor power of the left extremities, but the patient was very easily fatigued; the effort of talking or eating exhausted him. Nothing had been found in the urine or in the heart which could have caused the visual or cerebral disorder.

On November 6, that is, thirteen days after the onset of the trouble, I examined the patient at his home, several hours' journey from San Francisco, in consultation with the attending physician. He had been progressing steadily until, as the doctor informed me, "he distinguished light and shade, although he could not see outlines." He could now see enough to perceive that I wore spectacles. Vision with the right eye was less reduced than with the left, the higher degree of amblyopia on the left being probably connected with the anesthesia which was found throughout the whole of that side, on which hearing and smell were also duller than on the right. The patient kept the lids screwed up, as with a blepharospasm from photophobia, but we made an ophthalmoscopic examination of him without much difficulty and found no changes in the fundi. The reactions of the pupils were unimpaired. The movements of the face and tongue were normal, but power in the left upper and lower extremities was diminished; the lower limb was more affected than the upper. The patient could walk, but dragged the left foot and did not circumduct it in the manner commonly observed in organic hemiplegia. There was a perfectly normal plantar reflex on the left, although, probably as a result of the hemianesthesia, it was not quite so lively as the right one; the abdominal reflexes, the knee-jerks and the reflexes in the upper extremities were equal on the two sides. There was no astereognosis.

The patient was very hopeful in regard to the recovery of his sight and of the power of motion, and the assurances given him in order to fortify his confidence seemed to be rather superfluous.

By November 20 the doctor reported that "the patient sees very well now, but cannot read yet. Print is blurred to his eyes. He walks about with a cane with considerable favor to the weak leg." On Feb. 4, 1910, the account of him read: "He walks perfectly well and strong on both legs. He cast his cane aside several weeks ago. He is apparently in normal condition now with the exception of one eye. It gets tired quickly and does not see as clearly as the other." Later reports announced that "he is real active on his legs and his sight is good," but his memory was poor, mental effort confused and exhausted him, so that, being unable to produce new sermons or to attend to other clerical duties without suffering distress, he had to be retired.

As soon as I was informed that the patient was able to leave his home I began my endeavors to induce him to come to San Francisco, in order to examine him more thoroughly than circumstances had previously permitted; not succeeding in this, I pursued him with my importunities across the continent, and at last, about three years and a half after that seizure in the pulpit, through the kindness of Dr. B. F. Hodsdon of Miami, Fla., I obtained two sets of charts of his visual fields, one of which is here reproduced. Dr. Hodsdon took the fields on three different days and found that they varied.[4] The perimeter chart which is here supplied is the result of the examination of March 26, 1913. It will be observed that the field for white of both eyes is contracted, more of the left than of the right. The salient abnormality is, however, the extension of the field for blue beyond that for white, especially in the left eye, in which the field for red also in some meridians extends beyond that for white. The field for blue may perhaps be regarded as a little larger than normal. Red and green give irregularly contracted fields. There is no reversal of the color fields.



Case 2.—Fields for white and colors taken March 26, 1913. Dark continuous line indicates field for white; dash line outlines blue, dotted line red, line of dots and dashes green.

The perimeter charts dated April 25, 1913, also show the periphery of the fields for blue extending beyond the outlines of the white fields. This time the peculiarity is observed in the right eye as well as in the left: in both the temporal part of the blue extends from 25 to 30 degrees beyond the white fields.

A long letter written about this time by the patient contains no evidence of intellectual feebleness except his own statement that intense thinking causes "everything to become dense and cloudy." When he hurries or exerts himself he becomes conscious of a weakness in the left lower extremity; but whatever impression of any degree of disability might be derived from this description of his condition is pretty well effaced by his concluding denomination of himself as "a very well-satisfied individual."

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[3] Kron: See Footnote 1. Dieulafoy: La cécité hystérique, Sem. méd., 1905, No. 50, p. 591, lays special stress on headache as a forerunner of hysteric blindness.

[4] No information was furnished as to the size of the test object used in the perimetric examinations, nor have I any data as to the patient's present visual acuity.

In the first case, after a period of gradual diminution of vision, or, at least, of increasing apprehension of loss of vision, sight was suddenly lost, and, after an interval, as suddenly regained under circumstances which must dispel all doubts as to the nature of the blindness. In the second case, contrariwise, there was no premonition: like the disasters which may result from organic cerebral disease and are not uncommon at his time of life, paralysis and blindness befell this patient in the midst of his professional activity, and again, like the effects of organic disease, and unlike the dramatic issue in the first case, they receded only by degrees.

An emotional etiology could not be clearly elicited. In a very small town the minister "ran his godly race." He had a large family and a very meager stipend, but it could not be ascertained that his placidity was disturbed by anything more than the cares of his parishioners, and no unusual excitement had preceded the calamity which overtook him in his pulpit. The profession that he is "a very well-satisfied individual," quoted above, may be taken into account in determining his kind of temperament. His physician believed that the imputation of his being subject to such a disorder as hysteria would be extremely offensive to him.

The hemihypesthesia in the clergyman was of the same character as that of the mariner, and did not differ considerably from it in intensity. It will probably not be asserted that this "sensory" or "mixed" hypesthesia (so called because the special senses were more or less involved), which is so common in hysteria, was caused by an organic lesion in the first case; nor is there any necessity for assuming any such lesion in the second, despite the association of the affection of sensibility with a disturbance of motor power. This motor disturbance had no indisputable characteristic of organic origin, such as a Babinski sign; still, with the aid of some authors,[5] the hemiparesis, with greater involvement of the leg than of the arm, and the mixed hemihypesthesia might be referred to a lesion affecting the posterior part of the internal capsule; but such a lesion could not be conceived to cause the blindness. A unilateral affection would have caused a hemianopsia (or, according to the teachings of a former time, a crossed amblyopia with concentric limitation of the visual field) associated with the hemianesthesia; to make the patient "completely blind at once," a simultaneous injury to optic fibers or centers would have been required in the other hemisphere. The blindness resulting from bilateral lesions would consist in the addition of a right and a left homonymous hemianopsia; like the blindness of the two patients now under discussion it would be compatible with normal pupillary reactions, clear media and normal disks, and after having been complete for a longer or shorter period, it might be followed by a return of vision limited, however, to a field closely contracted around the fixing-point. I can say from my own experience in a case of bilateral softening of the occipital lobes in a woman of 65, and in two cases of blindness following a fall on the back of the head in young persons, by which no doubt the occipital lobes suffered injury, that from such lesions there may result a state of blindness which may be distinguished from hysteric amaurosis only by considering all the clinical features.

There are, however, in my second case positive traits in the picture which determine its interpretation as hysteric. These are, first, the photophobia and the appearance of blepharospasm. Dieulafoy writes, "A considerable number of patients affected with hysteric blindness keep their eyes obstinately closed like persons suffering from keratoconjunctivitis, who close their lids because they fear the light." He cites a case of Saint-Ange's, in which the patient had a spasm of the orbicularis, which was ascribed to a certain degree of photophobia, although the blindness was absolute. Then there are the visual fields which, although not charted until three years and a half after the attack of paralysis and blindness, still exhibit an extension of the field for blue far beyond that for white—a hyperchromatopsia which, experienced oculists inform me, is hysteric, an opinion for which there is support in a chapter contributed by De Schweinitz to Posey and Spiller's work on "The Eye and Nervous System."

Still, *falsum in uno* need not imply *falsum in omnibus;* for some disturbance may have occurred in the cerebral circulation which caused the left hemiparesis and at the same time provoked the mental state of which the blindness was a manifestation. The weight of the evidence, however, inclines to the conclusion that the whole constitutes a remarkable example of the power of hysteria to mimic cerebral disease.

802 Butler Building.

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[5] See, for instance, Taylor James: In Allbutt and Rolleston's System of Medicine, viii, 297, the chapter on Occlusion of Cerebral Vessels. For the opinion that "sensory" or "mixed" hemianesthesia always denotes hysteria see Oppenheim: Lehrbuch der Nervenkrankheiten, Ed. 6, ii, 928.

EXTRATHORACIC AND INTRATHORACIC ESOPHAGOPLASTY IN CONNECTION WITH RESECTION OF THE THORACIC PORTION OF THE ESOPHAGUS FOR CARCINOMA [*]

WILLY MEYER, M.D.
Attending Surgeon to the German and Post-Graduate Hospitals
NEW YORK

A year ago surgeons were still trying to demonstrate the possibility of successful resection of the esophagus for carcinoma. Gastrostomy for feeding and excision of the tumor with the working out of a safe method of inverting and closing the oral esophageal stump, which was left *in situ* within the thorax, appeared to be all they expected to achieve. The construction of a new tube for the act of swallowing—esophagoplasty—was a question that was given less consideration.

Since then the surgery of the esophagus has made such rapid strides forward that to-day the operator is obliged to include the question of the best way of forming a new esophagus when planning his operative work for the removal of a malignant esophageal stricture.

How did this rapid change come about? It seems that two factors are responsible for it:

1. The experimental designing of a new method of gastrostomy, the Jianu operation,[1] which incidentally represents the first step of inferior (or lower) esophagoplasty, and its introduction into human surgery.[2] By this operation a new tube is made by the dissecting off of a portion of the major curvature of the stomach, its

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[*] Read in the Section on Surgery of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

[*] Because of lack of space this article is abbreviated in The Journal. The complete article appears in the Transactions of the Section and in the author's reprints.

[1] Jianu: Gastrostomie und Oesophagoplastik, Deutsch. Ztschr. f. Chir., 1912, cxviii, 383.

[2] Roepke, W.: Centralbl. f. Chir., December, 1912.

transposition under the skin of the thorax—extrathoracically—from below upward.

2. The performance of two resections of the esophagus for carcinoma in man, in each of which the oral stump of the esophagus is successfully transposed under the skin of the thorax from above downward, superior (or upper) esophagoplasty.[3]

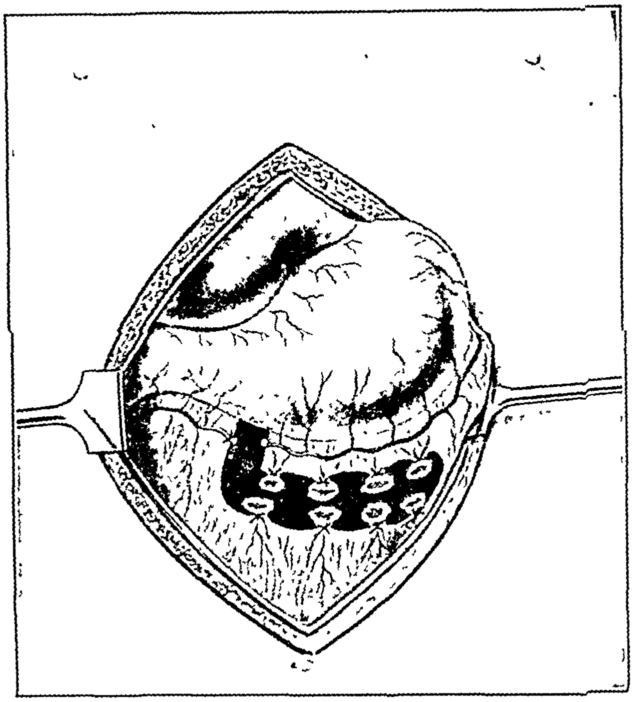

Fig. 3.—Jianu's gastrostomy and inferior esophagoplasty. Median incision; double ligation and division of omentum majus up to the point at which left inferior epiploic artery turns onto the stomach. Double ligation and division of right inferior epiploic artery; exposure of major curvature of stomach.

In order to avoid repetition, it seems best first to review briefly the operations devised for esophagoplasty prior to the year 1912.

BRIEF REVIEW OF OPERATIONS FORMERLY DEVISED

1. Esophagoplasty[4] by Means of Skin-Plasty (Bircher).[5]

Bircher showed as early as 1894 that a well-functionating, new tube for swallowing can be made from the neck down to the stomach by plastic work on the skin of the anterior aspect of the thorax.

2. Inferior Esophagoplasty with the Help of a Totally Excluded Coil of Jejunum (Wullstein,[7] Roux[8]).

The operation is done in three (or four) stages. A coil of the upper jejunum is totally excluded, remaining, of course, attached to its mesentery, transposed under the skin of the thorax and then with its lower aperture connected with the stomach (Fig. 1). Herzen, Lexer and Frangenheim have proved the feasibility of the method in cases of intractable cicatricial stricture of the esophagus. Their patients recovered. Gangrene of the transposed coil easily spoils the result.

3. Inferior Esophagoplasty with the Help of the Totally Excluded Transverse Colon (Kelling,[9] Vulliet[10]).

The transverse colon, totally excluded, also represents useful material for the formation of a new extrathoracic subcutaneously placed esophagus (Fig. 2). As stated before, however, this kind of plastic work, ingenious as it is and important as it may prove to be, after all, for the surgery of the esophagus in the future, requires a series of operations, the first of which always has to be a gastrostomy according to one of the older well-known methods.

Jianu's gastrostomy promises to simplify this chapter of operative surgery, inasmuch as it provides for the formation of the lower portion of a new esophagus—inferior esophagoplasty—at the same time.

OPERATIONS RECENTLY DEVISED

4. Inferior Esophagoplasty with the Help of a Dissected Portion of the Major Curvature of the Stomach (Jianu).

Technic of Jianu's Operation.—Jianu makes use of the major curvature of the stomach for the creation of a rather long tube, one end of which remains in connection with the gastric fundus, while the other free end can be drawn up. Before Jianu, others had tried to solve the task in a similar manner. Depage[11] by making use of the lesser curvature, and Hirsch[12] of the anterior wall of the stomach. Jianu's procedure means a decided step forward in comparison with the other two. Briefly described, it is as follows: median abdominal incision above the umbilicus; pulling forward of stomach; double ligation and division of major omentum from a place about 2 inches from the pylorus up to the region in which the left inferior epiploic artery turns onto the stomach. Liga-

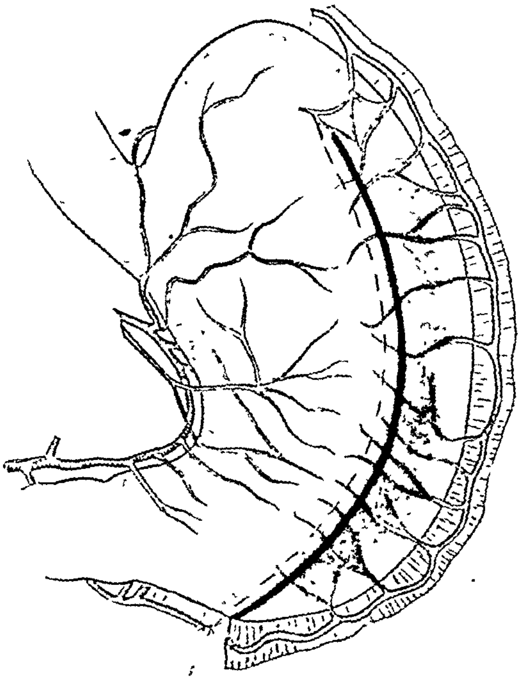

Fig 4.—A mattress suture (dotted line) divides the lower one-third of the stomach with its major curvature from upper two-thirds; scissors then cut the stomach along the heavy line.

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[3] Ach, Alwin: Beitr. z. Oesoph.-Chir., 1913 (published as monograph by J. F. Lehmann, Munich). Torek, Franz The First Successful Resection of the Thoracic Portion of the Esophagus for Carcinoma, THE JOURNAL A. M. A., May 17, 1913, p 1533.

[4] We must differentiate between "total" and "partial" esophagoplasty according to the length of the tube to be replaced See P Frangenheim, in Ergebnisse der Chirurgie und Orthopädie, 1913, v, 406.

[5] Bircher, E : Centralbl. f. Chir., 1907,

[7] Wullstein, K. A.: Deutsch. med. W
Centralbl. f. Chir., 1908, No. 8.

[8] Roux, C.: Semaine méd., 1902,

[9] Kelling, G. E.: Centralbl. f. Chir., 1913.

Vulliet: Semaine méd., 1911, No. 45.

[11] Depage: Tenth French Surg. Cong., 1903.

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ture of right inferior epiploic artery next to the first omental stump, formed by the ligation, completely baring the stomach wall (Fig. 3). A mattress suture is run from here through the entire thickness of the stomach about 1½ inches distant from and parallel with the greater curvature (Fig. 4, dotted line), the stomach having been lifted up by the assistant in order to have the contents run toward the lesser curvature. By placing a clamp (better still, two equally curved clamps), corresponding to the line of the major curvature, the asepsis of this part of the operation can be materially improved and the work simplified[13] (Fig. 5). Division of the stomach with scissors right below the suture line (Fig. 4, heavy line); major curvature turned up and temporarily wrapped in a piece of sterile gauze; Connell's suture from end of mattress suture to end of stomach flap forms the latter into a tube: "Jianu's tube" (Figs. 6 and 7). A second continuous suture inverts the first along its entire length; temporary inversion of end of tube by two or three sutures, their ends being left long (Fig. 8). Stomach turned so that base of Jianu tube corresponds to upper angle of abdominal wound, where it is secured by a few stitches. Closure of lower half of abdominal wound. Jianu's tube placed on chest to the left of sternum, to measure its length; horizontal incision at level of upper end of tube, skin of thorax thoroughly undermined and new tube pulled up with long curved forceps which catches the end of the inverting sutures (Fig. 9). The latter removed, and mucosa—*not* the entire thickness of tube—lined to skin of transverse incision; a strip of gauze in either corner of wound for brief drainage (Fig. 10); temporary packing of the orifice of the tube with gauze; closure of upper half of abdominal incision; dressing.

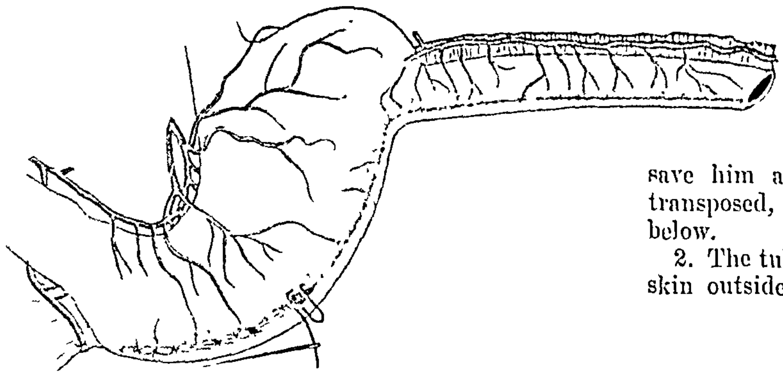
Fig. 6.—The major curvature flap formed into a tube—Jianu tube—by means of a continuous Connell suture; a second running suture (preferably Cushing's) secures the first row.

A new tube of ample size, from 18 to 25 cm. long, with good blood-supply and surrounded completely by peritoneum, has thus been formed, affording splendid material for the making of a new canal through which the patient will be enabled to pass his food down to the stomach. Its base remains in connection with the gastric fundus. The placing of its free end decides the location of the new esophagus and additional operative procedures. If transposed *outside* under the skin of the thorax, the first stage of *extrathoracic* esophagoplasty has been accomplished. If pulled up into the pleural cavity, through a hole of the diaphragm as proposed by me[14] it can be used to replace the lower portion of the esophagus that had been resected for carcinoma: *intrathoracic* esophagoplasty.

So far I have carried out Jianu's operation in three patients. In the first case needle and thread were used throughout. In Cases 2 and 3 I tried Hültl's wire-stitching instrument. All three patients made a good recovery (Figs. 11-13). The new tube was in each case placed extrathoracically.[15]

OBSERVATIONS AND REMARKS

1. In view of the presence of the vasa brevia (the branches of the splenic artery) the mattress suture and incision can well be run 1½ or 2 inches further up toward the fundus of the stomach, past the onward turn of the left inferior epiploic artery, a procedure which lengthens the tube considerably. Of course, the longer the tube, the better for the patient; a difference of ½ inch may save him another operation, if the oral stump, also transposed, meets the end of the tube pulled up from below.

2. The tube, when pulled up through the tunnel of the skin outside the thorax, should be put on the stretch. Its ample blood-supply will prevent gangrene. Its upper end can thus usually be brought up to the level of the third and often that of the second rib.

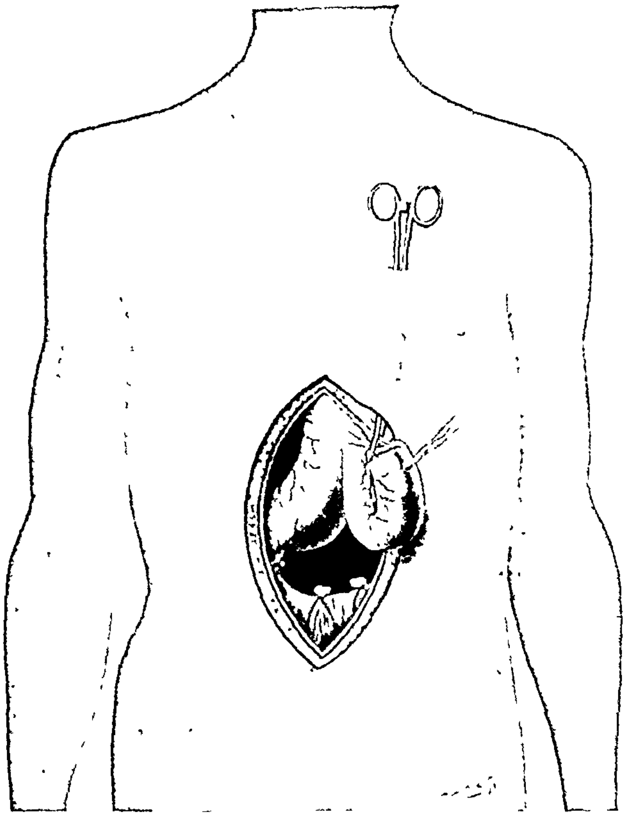
Fig. 9.—Stomach turned so that base of tube at fundus is flush with upper angle of abdominal incision; short transverse incision over third left costal cartilage, or above the same, according to length of tube; long curved dressing forceps there introduced under skin meets left forefinger of surgeon pushed upward from upper angle of abdominal wound; a wide subcutaneous wound is made. Forceps passed under bridge catches the sutures of inverted upper end of tube, which have been left long (in illustration the subcutaneous canal is shown very narrow by mistake; the forceps should catch the ends of all three sutures instead of only two).

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[13] If the major curvature is pulled into a straight line by an assistant, a straight clamp will probably do just as well.

[14] Meyer, Willy: Centralbl. f. Chir., Feb. 22, 1913, No. 8.

[15] Meyer, Willy: Ann. Surg., September, 1913.

3. There is no sphincteric action at the base of the tube; hence it often leaks in spite of its length, if not blocked with gauze at the upper end (Fig. 12) or compressed by a truss-like apparatus. This may become a source of great annoyance to the patients and forbids this operation in case the surgeon intends the formation of a gastric fistula only. Here the old, well-tested and satisfactory methods of gastrostomy (Witzel, Kader, Ssabanejew-Frank, Senn) should be resorted to. This leakage of gastric contents may also spoil the result of additional plastic work that may become necessary. The next pressing task to be solved therefore is to improve the functional result of Jianu's tube. It is possible that twisting the tube from 60 to 90 degrees or more (according to Gersuny's method for resection of the rectum) may overcome the leakage, perhaps also a slight modification with reference to the opening communicating with the fundus of the stomach (possibly *the smaller* the better), or when suturing the upper half of the abdominal wound, for instance, lifting the stomach up by one or two sutures only, so that a kind of kink occurs at the place where the tube enters the abdomen, or by constricting the stomach at this place in some manner. A correct explanation of this leakage at the opening of Jianu's tube probably is that the normal peristaltic movements of the stomach persist in the dissected portion on account of the presence of a branch of the left pneumogastric nerve within the wall of the new tube. Further observations will have to decide this point.

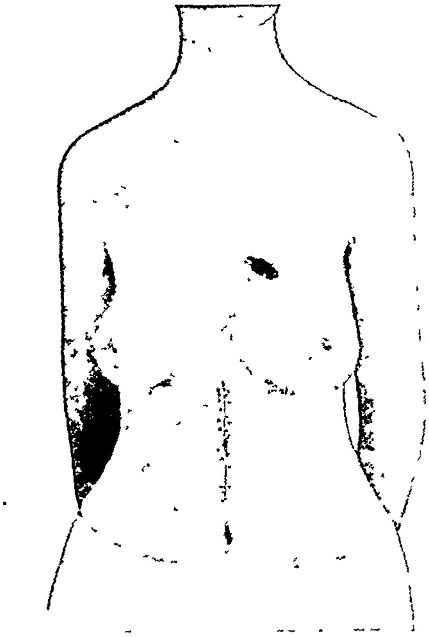

Fig. 13.—Third patient with same operation, also done under *venous anesthesia and with Hültl's instrument* (March 27, 1913). Base of tube at gastric fundus lifted up and secured to parietal peritoneum by six retention sutures; rapid recovery. Opening corresponds also to cartilage of third rib Tube forms a distinct serpentine under skin; it might well have been put more on the stretch and would then have easily reached the second cartilage. During after-treatment an outflow of gastric contents is observed off and on, which suggests normal peristaltic motion in the tube in the direction from cardia to pylorus, very likely due to the branch of the left pneumogastric nerve which runs within the wall of the tube. Plugging the upper opening with gauze and compressing the tube against the ribs by means of a truss-like apparatus with water-pad controls the outflow satisfactorily.

4. Reduction of the size of the stomach to two-thirds of its width does not interfere any more with the gastric function, than does resection of the stomach in the *transverse direction; the patients thoroughly enjoy their* meals.

5. Subcutaneous transposition of the new tube is preferable to submuscular.

6. The patients chew their food, thus enjoying its taste; by using the physiologic action of the saliva they stimulate gastric secretion; then they deposit it in some kind of warm fluid, broth, milk or water and wash the food down into the stomach through a funnel and tube. *The latter is introduced only at times of meals; it is not* permanently worn. Intelligent patients need only turn the head forward and downward and blow the chewed food, with the help of a special, cup-like mouth-piece, through the Jianu tube into the stomach (Trendelenburg).

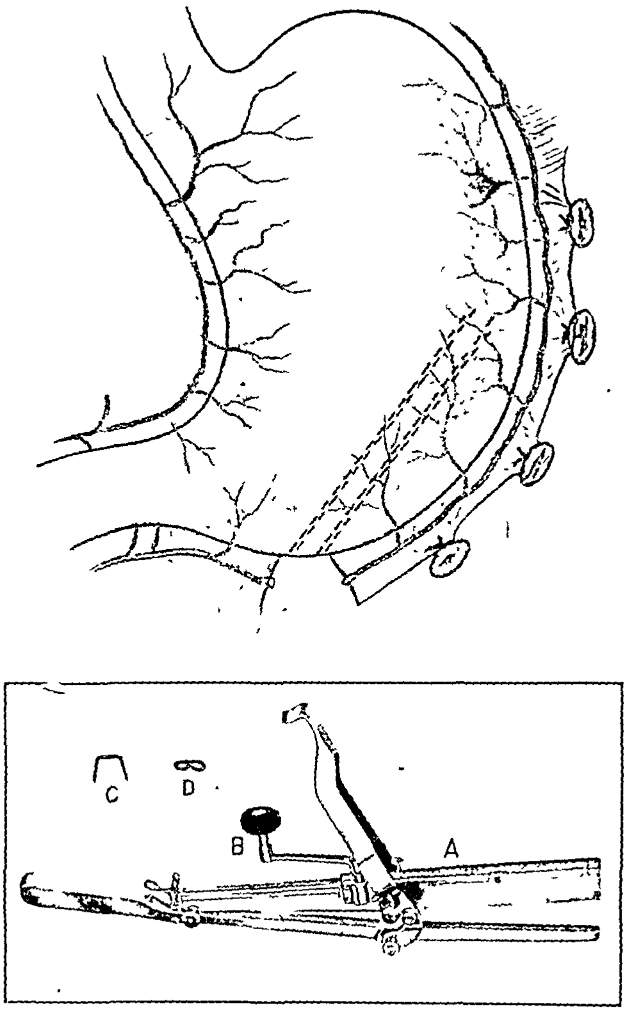

Fig 14.—Lower illustration shows Hültl's wire-stitching instrument. *A* represents broad, square crushing clamp which harbors the four rows of staples (*C*). *B* shows crank; by turning same five *times to the right after the clamp has been closed the staples are* driven entirely through the tissues (wall of stomach or intestines), and either side bent inward (*D*), having met the resistance of the other branch of the clamp beneath. The bent staples are gradually pushed off in the course of healing and discharged through the rectum; they never do any harm The upper illustration shows the double row of through-and-through wire staple sutures placed; the crushed center portion between the two inner rows is not shown

7. On basis of operations on dogs, we have made use of Hültl's wire stitching instruments to great advantage *in the formation* of the Jianu tube in the last two patients operated on. *Hültl's instrument* (Fig. 14 *a*) combines a firm compression of the tissues, to be divided, with rapid, easy and safe placing of a double row of *wire staples between which division is made* (Figs. 14 to 17). The operation on the stomach is therefore

rendered absolutely dry and, of course, more aseptic. The time of operation is also shortened, a point which in addition to the first may be of importance in weak patients.

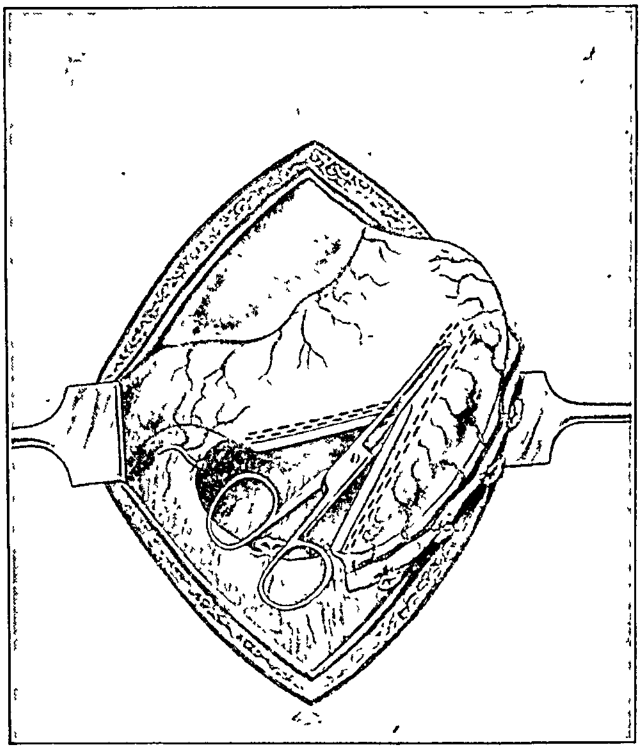

Fig 17—A second double row of staples is placed at an obtuse angle with Hültl's second (smaller) instrument beyond the turn of the left inferior epiploic artery, scissors traverse the dry, crushed center portion between the inner rows

5. *Inferior Esophagoplasty by Means of the Stomach and First Horizontal Portion of the Duodenum (von Fink).*—Not infrequently a cancer of the cardia does not grow upward involving the lowest portion of the esophagus, but advances on to the cardiac portion of the stomach in the shape of a cap. Here the base of Jianu's tube would lie in an area possibly already involved in the malignant disease. In keeping away from the fundus at an adequate distance, the tube would be of no use on account of its shortness. Here one of the old methods of gastrostomy should be done, or, if extrathoracic esophagoplasty were desired, von Fink's operation would be indicated.

6. *Inferior Esophagoplasty by Means of the Stomach and Distal End of the Resected Esophagus.*—Ach[17] proposes to make use of the stomach plus healthy distal stump of the esophagus after resection in its middle. Rehn[18] and Roepke[19] have worked in a similar direction. The procedure, if feasible, will be ideal on account of the presence of the normal cardia. The operation, however, means loosening the latter from its diaphragmatic attachment, and the necessity of providing against hernia through this hole. It also is to be seen how division of both pneumogastric nerves will affect the physiologic action of the cardia. Further, gastrostomy or inferior esophagoplasty must be done as the final step of the operation at the same sitting — a decided disadvantage.

The performance of gastrostomy after Jianu, as well as after von Fink and Ach, has no *raison d'être* in cases of cancer of the esophagus, unless the surgeon also desires to transpose the oral stump of the esophagus after resection, a procedure worked out by von Mikulicz and Kelling[20] years ago. The experience gained from two patients treated with this transposition of the oral stump of the esophagus after resection has shown, as mentioned before, that it can be done successfully and without the appearance of necrosis. This fact, in conjunction with the lower half of extrathoracic esophagoplasty, accomplished with the help of Jianu's gastrostomy (or von Fink's and Ach's procedure), has rapidly pushed on the evolution of this chapter of esophageal surgery. We have learned that extrathoracic transposition of the oral stump is the simpler and safer procedure, and it has therefore to be considered the operation of choice.

Further observations in man will show how long the oral stump may be without risk of partial necrosis. The latter must be avoided at all hazards, as it spoils the prognosis of subsequent plastic work which may become necessary, or even renders it impossible altogether. If it is of sufficient length to meet the opening of Jianu's tube, end-to-end suture, as mentioned, will finish the extrathoracic esophagoplasty in the happiest way (Fig. 21). If too short, a subsequent skin-plasty after Bircher[5] must bridge the defect (Fig. 22). Or, if further operating was not desired, or was contra-indicated, then a rubber tube, connecting both openings (Gluck,[22] Perthes) will establish the continuity of the tube and therewith enable the patient to swallow his food, a consummation most ardently desired by all.

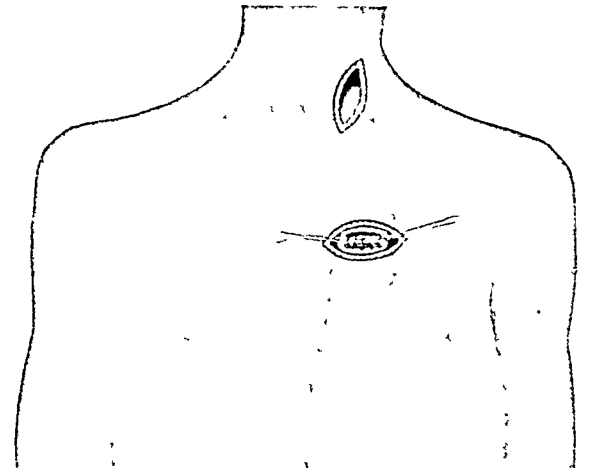

Fig. 21.—Last step of the two-stage operation just described.

It is in view of this invariable desire on the part of these patients in whom gastrostomy was performed that

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[17] Ach, Alwin: Berl klin. Wchnschr., 1913, No. 18, p 853
[18] Rehn, E.: Centralbl f. Chir, 1913, No 28, Supplement, p. 50.
[19] Roepke, W.: Berl klin Wchnschr, 1913, No. 18, p. 853
[20] Kelling, G. E.: Centralbl. f. Chir., 1904.
[22] Gluck, Th.: Berl klin Wchnschr., 1898, No. 42.

I have decided not simply to close the thorax in cases in which exploratory thoracotomy has shown the disease inextirpable, but to divide the esophagus in proper distance from the upper pole of the tumor and then transpose the oral stump extrathoracically, after closure of the distal part by inversion and suture (one personal observation so far).

From my experience gained in six cases of esophageal resection for advanced carcinoma I should advise to leave alone an infiltrating carcinoma behind the aortic arch which covers several inches of the tube, when performing thoracotomy on patients who show symptoms of *complete obstruction for some time* prior to operation. Attempts at removal will greatly weaken the resisting power of these reduced patients and eventually force the surgeon to continue radical work much against his wishes. On the other hand, palliative work — division of the esophagus above the stricture, closure of the distal end and extrathoracic transposition of the oral stump, as described before — do not tax the patient to any extent and will brighten the rest of his life.

It is, as a matter of course, impossible at the present moment to say which method of extrathoracic esophagoplasty will prove to be the preferable one. If the task of preventing regurgitation of stomach contents through the Jianu tube can be solved, then this method of gastrostomy and inferior esophagoplasty will be the operation of choice, principally on account of its simplicity and comparative absence of danger. If it will be shown, however, that this cannot be done and that the digestive effect of returning stomach juice will spoil plastic work that may become necessary later on, then the Wullstein-Roux method, or very likely Kelling-Vulliet's transposition of the excluded transverse colon will best be resorted to. At the present juncture it should be emphasized again that efforts of surgeons should be directed toward improving the functional working of Jianu's tube.

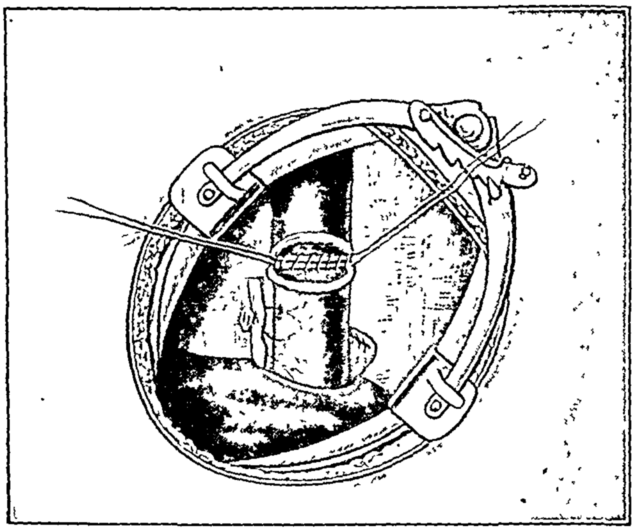

Fig. 24.—Inverted tip of Jianu tube released and cut off; redundant gastric mucosa clipped and both openings in process of end-to-end union by suture. There is splendid blood-supply up to the tip of the Jianu tube from the left inferior epiploic artery within the ligated major omentum, which latter always is to point toward the patient's right.

INTRATHORACIC ESOPHAGOPLASTY, EXPERIMENTAL

In cases in which examination previous to operation has shown the cancer to be located within the lower third of the esophagus, or localized right at the cardia itself (scirrhus) and immediate esophagogastrostomy does not appear feasible on account of the distance of the proximal end, the excellent plastic and well-nourished material of Jianu's tube makes one wonder whether or not the excised lower portion of the esophagus or cardia might be immediately replaced by this tube if brought up intrathoracically into the pleural cavity through the foramen esophageum of the diaphragm or alongside the cardia which had been closed by sutures after the resection (Fig. 23), its free opening to be united by end-to-end anastomosis with the oral stump of the esophagus which otherwise remains *in situ* undisturbed (Fig. 24).

CONCLUSION

As stated before, intrathoracic esophagoplasty, when properly worked out, would seem to be an ideal operation. If further observations in man, however, should prove that the transposed oral stump of the esophagus, no matter how long, has no tendency to become necrosed in its distal portion, but will live, as a rule, further experimental work for the perfection of intrathoracic esophagoplasty will be less urgent and extrathoracic esophagoplasty will become the operation of choice for resection of carcinoma in any part of the esophagus.

700 Madison Avenue.

A CASE OF RHINOPHYMA SUCCESSFULLY TREATED BY "DECORTICATION"

AIMÉ PAUL HEINECK, M.D.
CHICAGO

For the following reasons and others, I report the following case of rhinophyma. The photographs of the patient were taken before and after the surgical intervention.

1. This chronic disease of the nose, although it is not painful and occurs almost invariably in males, who, as a rule, are less sensitive than females to facial disfigurement, always exposes its victims to ridicule, often makes employment difficult to obtain and not infrequently hampers a patient's whole career. Hebra gave the name of "rhinophyma" to this disease.

2. Owing to the fact, that in the treatment of this affection, medicinal and other non-operative measures never give satisfactory results, patients soon acquire the erroneous impression that cure is impossible.

3. Though Ollier long ago demonstrated that pound-nose (called by him *éléphantiasis des buveurs*) can be *successfully treated by decorticating* the nose, that is, by removing the diseased tissues, by the aid of the thermocautery or cutting instruments, surgeons in general seem to ignore the fact that this unsightly deformity can be corrected by an operation of great simplicity and of unfailing efficacy.

4. Complicated operative procedures have been devised for and recommended in the treatment of hammer-nose. Being based either on inadequate knowledge or faulty interpretation of the pathology of this condition all such operative measures should be discarded.

5. Some diversity of opinion exists as to the etiology and pathologic anatomy of rhinophyma. Coplin, who made the histologic examination of the tissues removed from Keen's[1] patient, diagnosed the condition from the pathologic point of view as a soft fibroma of the skin

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[1] Keen, William H.: Rhinophyma, Ann. Surg., 1904, xxxix, 665.

with distention of the acini and possibly a hyperplasia of sebaceous glands.

All observers are agreed that the diseased part presents an enormous hyperplasia of the connective tissue of the corium, a thickening, dilatation, tortuosity, a numerical increase of the cutaneous arteries, veins and capillaries and an increase and hypertrophy of the sebaceous glands, the excretory ducts of which show marked lengthening and dilatation. The latter is caused partly by the retained secretion, partly by the active hyperplasia of the glands.

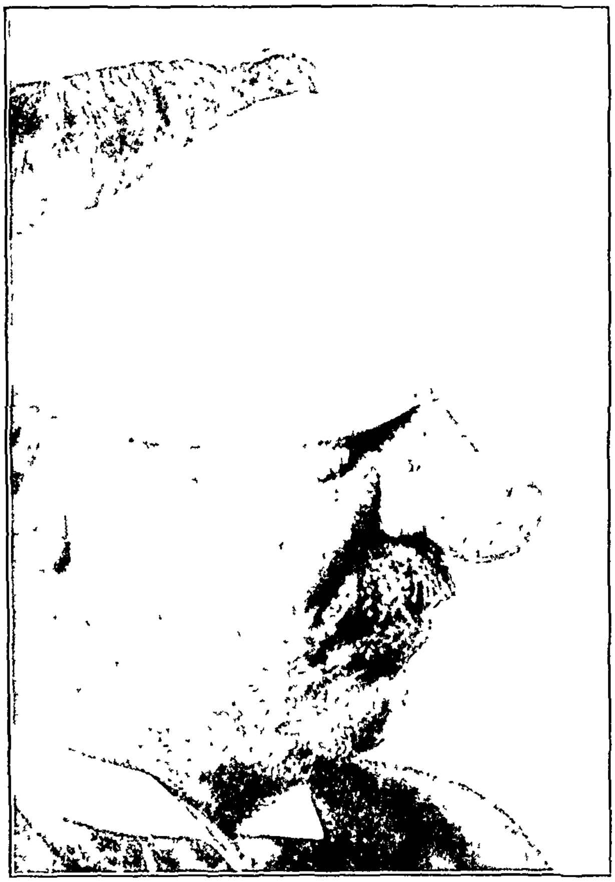
Fig 1.—Case of rhinophyma before operation.

History.—Mr. L., a Bohemian tailor, aged 48, married, was referred to me by Dr. Stulik for a nasal deformity which, according to the patient, made its appearance thirty-one years ago following an attack of chicken-pox. The patient eats lightly, drinks several glasses of beer daily, and does much walking. The family history is negative. The patient's health has always been good, and the physical examination, outside of the face and nose, is negative. The facial appearance frequently subjects him to embarrassment and mortification. Many physicians have treated the condition non-operatively with no improvement.

Examination.—The entire facial skin was seborrheic. The nose and the bordering cheek-areas were dusky red and presented a large number of thickened, dilated and tortuous cutaneous vessels, and many dilated, large, gaping sebaceous gland orifices, some of which were plugged with inspissated secretion. Many pustules, coexistent with acne rosacea, were on the cheek. The external portion of the nose was greatly hypertrophied; its tip consisted of a soft lemon-sized mass. The hypertrophy was limited to the superficial external portion and did not extend beyond the nasal orifice. The patient was sent to the hospital, was etherized, the eyes protected and the operative field (nose and cheeks) painted with tincture of iodin. Although decortication of the nose has been performed successfully under local anesthesia[2] (cocain, its synthetics, freezing mixtures, etc.), I prefer in these cases to use a general anesthetic.

Operation.—The index-finger of the left hand, introduced into one of the nostrils, stretched the soft tissues and held the thickness of the nose under control. This facilitated the modeling of the wings of the nose and guarded against the removal of too much tissue. The exuberant tissue masses on that side were then ablated with a sharp razor; the finger was introduced in the opposite naris and the same procedure repeated on the other side, care being taken during the entire operation not to injure the osteocartilaginous framework of the nose. The intent was to remove almost the entire diseased cutaneous portion of the nose, as the pathology of the disease is in this cutaneous covering. In rhinophyma, the nasal bones, the nasal cartilage, their fibrous covering and the endonasal lining show no apparent change and therefore should not be molested. To make the nose more presentable some paring was done here and there with scalpel and scissors, until the form of a normal nose was reached. It could easily be seen that the tissue *removed contained degenerated and cystic sebaceous glands filled with epithelial débris and sebum.* The operation somewhat resembles the whittling of a block of wood with a jack-knife.

Postoperative History.—The hemorrhage, profuse at first, was readily checked by compression with sterilized gauze. To prevent its recurrence, a hard-rubber nasal tube was introduced in each nostril, counter-pressure being thus secured from within against the pressure exerted from without by the gauze and bandage. The nasal tubes were removed in twenty-four hours. For the first forty-eight hours the postoperative treatment consisted of hot boric compresses applied every two hours to the operative wound. After that time the part was dressed with calamine lotion. Recovery was uneventful. At the end of eight weeks the wound was completely epidermized.

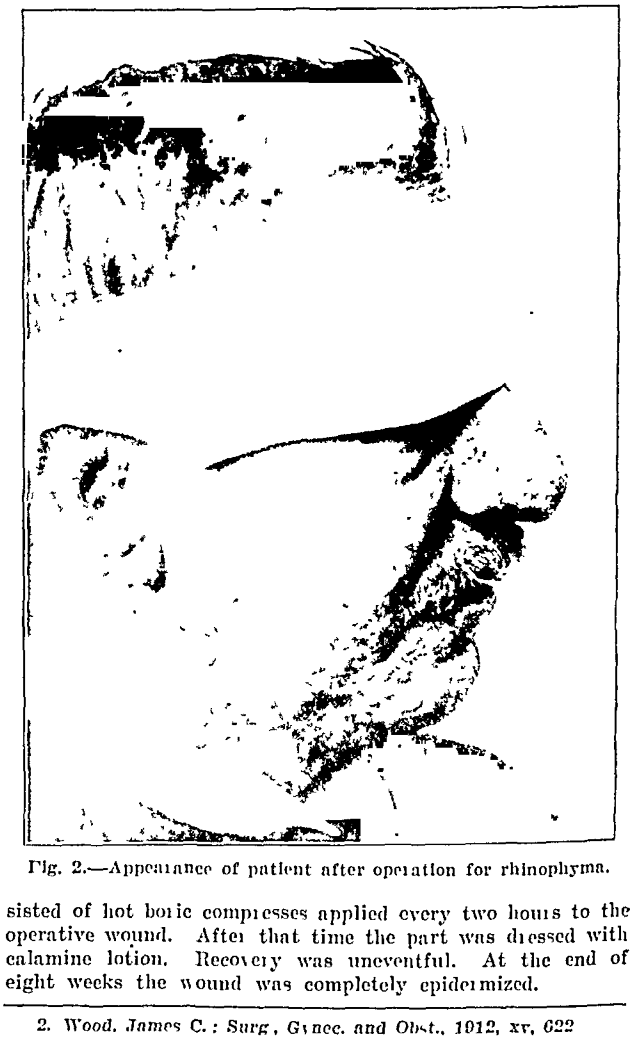
Fig. 2.—Appearance of patient after operation for rhinophyma.

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2. Wood, James C.: Surg., Gynec. and Obst., 1912, xv, 622

A number of points of interest are presented by this case of rhinophyma:

1. Its occurrence in a man whose occupation does not entail exposure to inclement weather, who is fairly moderate in his consumption of alcoholic beverages and who gives no history of gastric irritation or disturbance. The etiologic influence of alcohol is hard to determine; there are many alcoholics and but few cases of rhinophyma.

2. The fact that all but one of the patient's medical advisers (and he consulted a goodly number) seem to have been unaware of the relief which surgery offers in this condition.

3. The simplicity, safety, efficacy and short duration of the operative intervention, which consists in removing almost entirely the cutaneous covering of the nose, while carefully respecting its osteocartilaginous framework. A covering of greater or less thickness of the soft tissues must always be left. This direct operation is limited to the external superficial more or less modified parts. No complementary, autoplastic or skin-grafting operation is performed.

4. The satisfactory result, which can be seen when the photograph taken immediately before the operation is compared with that taken shortly after the patient's discharge. The new complete skin-covering for the nose was derived from the dermal margins of the wound and from the epithelium of the abundant and deep-lying remains of sebaceous glands.

In cosmetic surgery of the face I discard the thermocautery for the removal of exuberant tissues. It makes the employment of ether anesthesia dangerous. It has always seemed to me that the scar resulting from the cautery is less satisfactory from the esthetic point of view than the scar which results from cutting operations.

HAIR-BALLS OF THE STOMACH AND INTESTINE *

LEDRA HEAZLIT, M.D.
AUBURN, N. Y.

The rarity of hair-ball coincident in the stomach and in the intestine has led me to report the following case, which also has an unusual symptomatology:

History.—The patient, H. C. A., aged 13, the daughter of a physician, with the exception of the usual diseases of childhood and a pneumonia at the age of 11, had always been in good health. When about 2 years of age she developed the habit of sucking her right thumb and at the same time twisting and pulling her hair with the left hand. At the age of 5, she was first noticed by her parents actually to put hair in her mouth and swallow it. This was observed occasionally in her up to her tenth year, but since that time it was thought that the habit had been discontinued and forgotten. She had always eaten heartily and digestion had been apparently normal until about one year prior to the present illness, when occasional attacks of stomach disturbance began, which were evidenced by stomach-ache, belching of gas, fetid breath, etc. These attacks, however, were not so frequent or so severe as to impress the parents as unusual.

Present Illness.—This began on the morning of July 19 with stomach-ache which was temporarily relieved by bowel action. Attacks of abdominal pain recurred during the day and night. She abstained from food during this time and there was no vomiting. Early the next morning, an attack of pain was followed by vomiting of bile and a bowel movement. Castor oil was administered but was rejected. The father, while examining the abdomen at this time, discovered the presence of a large sausage-shaped tumor which occupied the area between the ensiform cartilage and the umbilicus and extended crosswise from the cardiac area of the stomach to the region of the pylorus. The tumor on palpation was movable and tender. Examination of the lower abdomen elicited some tenderness over the appendix but otherwise was negative. The nature of the mass was a matter of doubt until a tuft of hair vomited a few hours later recalled to the father's mind the habit of hair-eating, and at once suggested the diagnosis of hair accumulation in the stomach. Dr. L. F. O'Neill, of this city, who saw her in consultation, concurred in the diagnosis. Two more attacks of pain and vomiting occurred during the second night. There was no disturbance of temperature or pulse. I examined the patient for the first time on the morning of July 21, having been called with regard to an operation. The findings previously described, together with the history, seemed to make the diagnosis clear.

First Operation.—This was performed at the Auburn City Hospital, July 21. A midline incision above the umbilicus exposed the stomach, which was seen to be the container of the mass. An incision about 3 inches in length was then made through the anterior wall of the stomach near the cardiac end, and through this a mass of firmly packed hair mixed with food particles and mucus was extracted. The hair tumor, which completely filled the cavity of the stomach and had adapted its form to the contour of the greater and lesser curvatures, weighed on removal 15 ounces. It measured 7¾ inches in length, 2½ inches in diameter, and 7 inches in circumference. The stomach incision was closed by three layers of continuous sutures, catgut in the mucous and muscular coats and linen in the peritoneal. The appendix was examined through the same incision, found to be thickened and injected, and was removed.

The patient, at the conclusion of the operation, was in good condition, and continued so for the next thirty-six hours. During this time two bowel movements occurred, one spontaneously and one by enema. About 6 p. m. July 22 she vomited nearly a quart of bile-stained fluid, and at 9:30 a like quantity of similar fluid. High enemas during the night resulted in free expulsion of gas with some fecal matter. No further vomiting occurred until 11:15 the morning of July 23, when, after the administration of 2 drams of calcined magnesia, she again vomited about a quart of bile-colored fluid. Castor oil was given an hour later and was retained for nearly six hours, when vomiting of about 8 ounces of bile-colored material mixed with oil occurred. After two further recurrences of vomiting and with distention of the abdomen beginning, it became evident that we had to deal with some form of ileus and that an exploration was indicated.

Second Operation.—The abdomen was opened through the original incision, at 5 a. m., July 24. As the patient seemed physically depressed an intravenous transfusion of normal saline solution was given during the operation. The seat of the gastrotomy was inspected and found satisfactory. No obstruction was found in the pylorus or duodenum, but a firm, movable mass was discovered in the ileum from which a firm mat of hair measuring 3 inches in length and completely occupying the lumen of the bowel was extracted after enterotomy.

Postoperative History.—The patient showed some evidences of shock, but reacted promptly. No further vomiting occurred. The bowels moved freely during the first twenty-four hours succeeding the operation. Liquid food was begun at the end of eighteen hours and was well borne. With the exception of some fat necrosis in the line of the incision, the convalescence was uneventful. She was removed from the hospital to her home on the eighth day following admission. Since recovery from the operation she has been free from stomach symptoms and has gained 10 pounds in weight.

The presence of a hair-ball, hair-tumor or trichobezoar, as it is variously termed, in the human stomach, though infrequent, has ceased to be a very rare condition, over seventy cases having been reported in the literature. These reports include hair-tumors found throughout the gastro-intestinal tract at necropsy as well as in operations. Desiring to isolate the cases disclosed by operations, I have reviewed this literature and have been able to collect forty-one cases. Of these, thirty-five were gastrotomies for hair accumulations, which in some instances were prolonged into the duodenum; four were enterotomies or intestinal resections, in which one or more hair-balls were found in the ileum, while in two only both gastrotomy and enterotomy were performed in the same patient for separate hair-tumors, and in both instances the operations were performed at different times.

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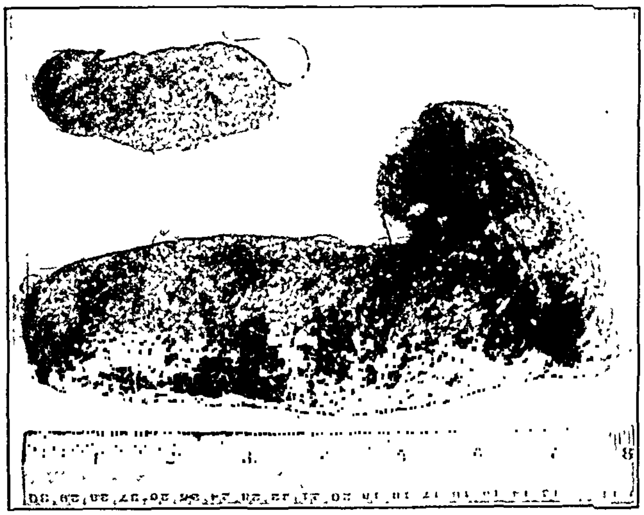
* Read by title before the Medical Association of Central New York, at Auburn, Oct. 30, 1913

The habit of hair-swallowing appears to be practically confined to females. Of the forty-one cases with operation, all occurred in either girls or young women, the youngest[1] being 7, and the oldest[2] 37. In most instances, where a history was obtainable, the habit had existed from early childhood and had been continued over a period of several years, in one case,[3] thirteen years. The greater number have preferred their own hair, either pulling it out and swallowing it, or chewing the ends of braids or curls, and occasionally swallowing in addition such articles as bits of string, cotton, wool, etc., which have formed a nucleus for the hair tumor. In only two cases has hair from a foreign source been recorded: one patient,[4] a woman aged 30, a spinner of cow's hair, was in the habit of moistening her finger with the tongue and thus swallowed enough to form a spherical hair-ball in the stomach weighing about 4 ounces; the other patient,[2] a woman aged 37, a brush-maker by trade, ate the bristles used in making the brushes, and the hair-tumor found was composed of this material.



Smaller object, in upper left-hand corner, hair-ball removed from ileum. Large mass below, hair-ball removed from stomach.

It is interesting to note that this peculiar habit has not as a rule been associated with mental enfeeblement, insanity or inebriety, but in the vast majority of cases occurred in persons otherwise quite normal. In a few cases a motive has been given in explanation of the practice. For example: Knowsley Thornton's patient[5] had for years been in the habit of "eating the combings of her hair and her sewing-cotton ends to clean her tongue"; Schönborn's patient[6] swallowed hers "to make her voice clear"; Jacobson's, because she liked the tickling sensation of the hair in its passage to the stomach.[7] In only three instances in this series has mention been made of any mental abnormality. One,[8] a girl of 16, was said to have always been hysterical; another,[9] aged 22, ate hair during delirium following an attack of grip; a third[10] occurred in a pregnant woman of 22, but there is no clear history to show that she had not eaten hair before her pregnancy.

The most frequent location of these hair-tumors is the stomach. It is relatively rare for them to be found in the bowel. In only six of the forty-one operations were hair-balls found in the intestinal tract. The tumor usually consists of a large accumulation of hair of varying length, firmly matted into a hard mass, which completely fills the cavity of the stomach, and is shaped by its walls into an exact cast of the organ. The general contour of these hair-balls of the stomach corresponds closely to the shape of the letter J, which reproduces the normal stomach outline as demonstrated by the Roentgen ray. In two cases,[2, 11] three distinct hair-tumors were found in the stomach, the separate masses adjoining each other by smoothly faceted surfaces. The hair-masses are not infrequently provided with processes which extend into either the duodenum or esophagus or both. Prolongation of the tumor into the duodenum occurred in seven of the cases reported. Just why more tufts of hair, which must be ingested in small quantities at a time, do not pass through into the bowel is not clear. One assumption is that the individual bits of hair reaching the stomach are caught in the mucous folds and thus retained, and that the subsequent additions gradually attach themselves to the primary nucleus in the slow formation of the mass. Hair-balls of the stomach often reach large proportions. The largest in this series is reported by L. Storey[12] as weighing 2½ pounds, but there are cases on record[13] in which the hair-mass weighed 4 pounds and over. The hair is usually mixed with food particles and is separated from the stomach-wall by a layer of mucus. From the weight of the contained mass the stomach-walls become hypertrophied, and the organ is frequently dilated and displaced. Practically all observers emphasize the mobility of the mass or the stomach itself. Langhaus[14] describes finding on the surface of the stomach whitish striae, due to distention, and resembling the striae of pregnancy. The mucosa seems to suffer the least, although small ulcers and even perforations have been noted in some of the necropsies.[15]

The symptomatology of hair-balls is far from characteristic and presents a wide range of variations. The only constant evidence of these masses in the stomach is the presence of a hard tumor in the upper abdomen.

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[1] Barling: Proc. Roy. Soc. Med. London, 1912-13, vi, 171.

[2] Day, Donald: Brit. Med. Jour., Dec. 20, 1902, p. 1899.

[3] Pell-Ilderton: Brit. Med. Jour., Jan. 5, 1907, p. 18.

[4] afSchulton, M. W.: Finska läk.-sällsk. handl., 1895, B, xxxvii, No. 9; Centralbl. f. Chir., 1896, No. 3, p. 68.

[5] Thornton, J. Knowsley: Lancet, London, Jan. 9, 1886, p. 57; Tr. Path. Soc., London, xxxv, 199.

[6] Schönborn: Arch. f. klin. Chir. (Langenbeck's), 1883, xxix, 609.

[7] Jacobson: Tr. Med. Soc. State N. Y., 1901, p. 386; Med. News, 1901, xxxvi, 245.

[8] Koeppelin: Operation by Sirand. Soc. de chir. de Lyon, June, 1901; Provence méd. (Lyon), 1901, No. 22, p. 295.

[9] O'Hara: Wien. klin. Wchnschr., 1899, No. 5, p. 119.

[10] Bruce: Canada Lancet, 1901, xxxv, 123.

[11] Holland: Operation by Litler-Jones. Arch. Roentg. Ray, July, 1913, p. 6.

[12] Storey, L.: Lancet, London, Jan. 25, 1913, p. 240.

[13] Wölfler and Lieblein: Deutsch. Ztschr. f. Chir., 1909, No. 46.

[14] Langhaus: Centralbl. f. Chir., 1908, No. 35, appendix, p. 121.

[15] Butterworth: The Journal A. M. A., Aug. 21, 1909, p. 617.

which has been variously described as cucumber-shaped, sausage-shaped, oblong or spherical, usually movable. and only slightly tender on palpation. In exceptional instances there have been no manifestations whatever on the part of the stomach. In Bruce's case,[10] in a pregnant woman of 26, a hard swelling, which gave no symptoms, was discovered in the upper abdomen two months prior to childbirth. Twin pregnancy was suspected. The persistence of the tumor after delivery led to an exploratory operation which disclosed a hair-ball of the stomach. The gastric symptoms vary in degree from mild digestive disturbance with dull aching in the stomach, often noticed over a period of months or years without seriously affecting the general health, to repeated severe attacks of colicky pain and vomiting. The pain and vomiting, as a rule, occur after meals, and when occurring over a long period result in loss of weight and strength from inanition. In Jacobson's case,[7] that of a girl of 11, the pains occurred almost entirely at night, and she frequently vomited frothy mucus, but no food. These symptoms began over two years before the operation. During this time she lost strength and became very nervous. In some cases constipation had been persistent, while in others there have been frequent attacks of diarrhea. Occasionally small masses of hair have been vomited or passed by bowel, and this occurrence has led to a correct diagnosis. In the case reported by Ranzi,[16] in a girl of 20, an attack of acute intestinal obstruction occurred four years before operation. This was relieved by high enemas, which brought away masses of hair. Two years later the patient began to have pain in the stomach, which increased during a period of two years, when an operation relieved her of a hair-ball of the stomach weighing over a pound. Of the six patients with hair-ball in the ileum, four were operated on because of symptoms of complete intestinal obstruction, the other two because of a mass in the abdomen associated with pain and vomiting. One[17] of these was thought to be tuberculous peritonitis, the other[18] a malignant tumor of the small intestine.

In considering the histories of many of the cases, together with the size of the hair-tumor removed at operation, nearly all being described as completely filling the cavity of the stomach, it would seem probable that these large masses often remain in the stomach for long periods, months or years, without producing marked symptoms or materially interfering with the health of the individual. The question naturally arises, What determines finally the onset of acute symptoms which calls attention to the tumor and demands operation? In my case, the presence of the hair-ball in the ileum was thought to be responsible for the pain and vomiting instead of the tumor in the stomach; but in other cases the same symptoms have developed without any intestinal mass to explain them. The only theory advanced is that the stomach normally is exceedingly tolerant of foreign bodies, but that Nature rebels when the limit of tolerance is finally reached.

The difficulty of diagnosis in these cases is attested by the fact that of the forty-one cases in which an operation was performed, in only nine was a correct diagnosis made before operation. In eighteen of the cases no diagnosis was made and the exploratory laparotomy was on account of the presence of a tumor. In the remaining cases, various conditions were suspected, such as floating kidney, movable spleen, omental or hydatid cyst, tuberculous peritonitis, malignant growth, and in one case, already mentioned, the hair-tumor was supposed to be a twin pregnancy. In the cases in which a correct diagnosis was made before operation, a history of the habit of hair-swallowing had been obtained, or hair had been either vomited or passed by bowel. For the most part, the existence of the trichophagia was discovered after operation, the patients having previously denied it. In one instance reported by Rehorn,[19] a girl of 18 persistently denied ever having swallowed her own or other hair even after a hair-ball, weighing nearly 10 ounces, had been removed from her stomach.

The use of the Roentgen ray in the diagnosis of hair-ball of the stomach has only recently been emphasized by C. Thurstan Holland of Liverpool, England, in an article[11] reporting the case of a young woman of 29, who was admitted to the Royal Infirmary with a large hard tumor of the upper abdomen, but without any definite history. As the woman could not swallow anything in the nature of thick food, she was given a mixture of barium sulphate in milk and a roentgenogram was taken immediately afterward. This showed the distinct outline of three closely adjoining masses completely filling the cavity of the stomach. Operation later recovered three large hair-balls. Holland believes his to be the first description of the Roentgen-ray appearances in such a case. In one other report[20] mention of a roentgenogram is made, but in this case it did not lead to a correct diagnosis.

The operative treatment of hair-ball of the stomach has been attended by signal success. In the thirty-five gastrotomies reported, not a single fatality has occurred. Only two cases[18, 21] in the series resulted in death, and in these operations were done on nearly moribund children suffering from advanced intestinal obstruction due to hair accumulations in the ileum.

The two cases which at all parallel the one that I report are of interest in this connection. Bell's case[22] was that of a bright, intelligent girl of 12, who for nearly two years had attacks of vomiting, diarrhea and abdominal pain. The vomitus consisted mainly of frothy mucus, with at times particles of food. Six months prior to operation she had a very severe attack of vomiting and diarrhea, when a mass was felt in the abdomen, which was thought to be an abscess of the liver. The history showed that when she was 3 years of age she had a habit of breaking her hair with the fingers and that some difficulty was experienced in overcoming the habit. A diagnosis of probable hair-ball was made. Gastrotomy was performed and a large hair-cast of the stomach, together with a detached mass in the duodenum, was removed. At a second operation a hair-ball of the intestine, 8 inches in length, was extracted. At a fourth operation a section of the small intestine was found riddled with openings, and 2 inches of the intestine were resected. Other perforations developed and it was necessary again to resect a portion of the bowel, when a Murphy button was used, which she passed. Six months after her admission to the hospital, after undergoing eleven operations, she was said to be "on the high road to recovery."

Scott-Turner's case[23] was in a woman, aged 29, who had been suffering for several years from intestinal colic with symptoms of intestinal occlusion. Operation disclosed an obstructing hair-ball in the ileum. Four weeks later symptoms of pyloric stenosis supervened and the material vomited contained hair. Gastrotomy was performed and a hair-ball was found impacted in the pylorus. Recovery ensued.

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[16] Ranzi: Wien. klin. Wchnschr., 1904, No. 50, p. 1343.
[17] Terman: Hygeia, June, 1906, p. 576.
[18] Sprengel: Verhandl. d. deutsch. Gesellsch. f. Chir., 1912, p. 217; Berl. klin. Wchnschr., 1912, No. 19, p. 921.
[19] Rehorn: Nord. Med. Ark., 1902, xxxv, 25.
[20] Mouriquand: Provence méd. (Lyon), 1907, xlix, 957.
[21] Brewster: Boston Med. and Surg. Jour., 1909, No. 15, p. 395.
[22] Bell, J.: Montreal Med. Jour., February, 1903, p. 94.
[23] Scott-Turner: Brit. Med. Jour., 1906, ii, 1126.

In both these cases of multiple hair-balls involving the stomach and intestine, the presence of another mass was unsuspected at the first operation. These experiences, together with mine, indicate that a thorough examination of the entire gastro-intestinal tract should be made before closure of the abdomen in every operation for hair-ball.

The other cases reported in the literature are nearly all taken from necropsy records, death having ensued from inanition, perforation or obstruction, the diagnosis being made post mortem. With increasing familiarity with this class of tumors should come an earlier recognition of an operable condition and a steady decrease in such a heavy mortality.

CHOREA

WITH REPORT OF TWO CASES IN WHICH STREPTOCOCCUS VIRIDANS WAS FOUND IN THE BLOOD *

JOHN H. RICHARDS, M.D.
NEW YORK

Ever since Roger in 1866 classed rheumatism, chorea and endocarditis as manifestations of the same pathologic entity there has been much controversy as to the etiology. A review of the literature leaves no doubt that there is a relationship between these diseases. Sturges, Peacock, Owen, Wollenberg, Osler, Hughes, See, Brown, Batton, Meyer, Bright, Garrod, Herringham, Mackenzie and many others have written on this relationship, and have given statistics showing a relationship in from 15 to 80 per cent. of all cases. There are those who conclude that no definite relationship can be established, and at the other extreme there are those who, like Roger, assert that acute rheumatism, chorea and endocarditis are but different manifestations of the same underlying disease. Of late Butler, Hoskins, Anderson and MacAlister have published studies on this relationship. In the main this relationship is based on clinical findings, such as the very frequent association of rheumatism, chorea and endocarditis.

Of late years more attention has been paid to the bacteriology of chorea. To quote from Church:

> Dana found a coccus in a case of chorea in which there was a leptomeningitis of the brain and of the upper part of the cord. In a severe case of chorea and rheumatic endocarditis Triboulet found Achalme's bacillus. In two cases Apert found Triboulet's coccus. Westphall, Wassermann, and Malkoff found a coccus in the brain of one patient. Poynton and Paine isolated a similar coccus in several cases of chorea. In three cases Beaton and Walker found the same coccus.

Camisa and Guervicr have independently reported the finding of cocci in the blood of chorea patients. In their reports the cultural characteristics are not fully given, but so far as given there is no difference between their findings and those of Poynton and Paine.

In January of this year Collins reported a case of chorea as cured by treatment with an autogenous vaccine prepared from a coccus obtained by lumbar puncture.

The following cases are reported, one in Bellevue Hospital from the service of W. Gilman Thompson, and one in private practice.

Case 1.—*History.*—On admission of the patient, a woman, aged 20, to the hospital, her speech was so inarticulate that it was difficult to obtain a history. The following was learned from visitors: The father and mother were dead—cause not known. The patient had no brothers or sisters. There was no history of any of the common diseases of childhood. The patient had not had typhoid, malaria, rheumatism, tonsillitis, torticollis or chorea. The patient was unmarried, and had one child 4 months old. So far as could be ascertained the patient's pregnancy was normal excepting for occasional vomiting. There was no history of venereal disease.

About April 1, 1913, the patient's right wrist became painful, swollen and hot. At the same time speech became inarticulate. Also she began to have involuntary spasmodic movements, especially marked in the head, but occurring throughout the body. The pain in the right wrist lasted about two days, after which the small joints of the right hand became involved. This did not clear up. On April 29, the left hand became involved in all joints. The patient was unable to sleep on account of the jactitation.

Physical Examination.—This revealed an acute multiple arthritis, a chronic valvular endocarditis, and pyorrhea alveolaris. Otherwise it was negative. There were no petechiae. The temperature on admission was 101 F. and gradually rose to 106 F. at the time of death three days later. The pulse and respirations were commensurate with the temperature.

Blood-Culture.—April 29, 1913, a culture of blood from a vein was made in North's agar at 43 C. (109.4 F.) by pouring five plates. The temperature of the incubator was 37 C. (98.6 F.). No growth appeared on any plate for eight days, when all showed colonies of the following characters:

1. They were uniformly distributed on the plates (from five to nineteen colonies to a plate) and formed below the surface of the medium.
2. The colonies and the immediate vicinity were green. In growths without blood this color did not appear.
3. The colonies were pin-point in size and did not greatly enlarge on further incubation.
4. There was no hemolysis.
5. When grown in broth, chains of eight to ten were formed. Each coccus was very small, and sometimes slightly elongated. When grown in bile medium the cocci were not dissolved. Litmus milk showed acid production in three days with coagulation, but no peptonization. Acid was produced in the following carbohydrate mediums: lactose, dextrose, arabinose, raffinose and saccharose, but not in dextrin, mannite and salicin. Inulin was not coagulated after ten days. (These cultural methods were suggested by Dr. Thro, who will publish his methods in detail later.)
6. The coccus retained the Gram stain.
7. There were no capsules.

Control.—The blood from a convalescent typhoid patient was used as control, and all plates remained sterile. The bloods were taken within a few minutes of each other and were treated exactly alike.

May 1, 1913, another specimen of blood was taken, controlled and treated in the same manner. The same coccus was again isolated and treated to the same cultural tests with the same results.

Case 2 (from private practice).—*History.*—The patient was a girl aged 9. The father was alive and well. The mother had an acute rheumatic fever twice, followed by chronic endocarditis. The patient had acute rheumatic fever when 3 years old, complicated by endocarditis, and had had tonsillitis frequently. In December, 1912, the patient's heart lost compensation following a severe attack of tonsillitis.

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* From the department of Clinical Pathology, Cornell University Medical College.

* This article is abbreviated in The Journal by omission of the bibliography. It appears in full in the author's reprints, a copy of which will be sent by him on receipt of an addressed stamped envelope.

On this account she was kept in bed and given a milk diet. At this time there was no fever. Later, in May, 1913, however, a low grade of fever developed, and in a few days a well-marked chorea. There was no joint involvement. The heart at this time was fairly well compensating. With the development of the chorea the child became stupid and the jactitation of her arms and face so marked that she had very little sleep.

Blood-Culture.—May 30, 1913, a culture of blood from a vein was made in North's agar, poured in five plates. The temperature of the incubator was 37 C. No growth appeared on any plate for six days, when four plates showed colonies (one remained sterile) of the same character as the colonies in the preceding case, excepting that acid was not produced in saccharose. The staining characters were the same as in Case 1. The control was accomplished in the same manner as in Case 1.

June 15, 1913, the coccus grown from Case 2 was used in the preparation of an antigen and the patient's serum was tested against it with positive result for complement fixation. The serum from a convalescent typhoid was used as control, and the test was negative. The technic was that of Schwartz and MacNeil for gonococcus and of Hastings for streptococcus. A second test was made with stock-mixed antigen prepared from two strains of *Streptococcus viridans* isolated from the blood of two patients with chronic infectious endocarditis. The test was positive.

June 20, 1913, cultures were made from the crypts of the tonsils in Case 2 and a coccus culturally identical with the coccus found in the blood was found. An antigen was made from this coccus and tested against the patient's serum. The result was positive. The blood was again taken from the vein of the patient as before. The same coccus was isolated. This time it was obtained on all plates. The complement-fixation tests as done on June 15, 1913, were repeated with positive results.

A study of these cases shows that the organism found in the blood in the two cases in no way differs from the description of the *Micrococcus rheumaticus* of Poynton and Paine, but on the other hand it is culturally identical with the description of the green-producing streptococcus of Schottmueller. The fact that the coccus of Schottmueller and the coccus of Poynton and Paine are culturally identical was observed by Hastings in 1912, and later worked out by Thro at the suggestion of Hastings.

Undoubtedly the coccus isolated by Dana and others mentioned before is identical with the coccus found in the two cases reported. The number of cases, however, is too small to form definite opinions as to the etiology of chorea. Certainly more work along these lines is indicated. That the coccus found in the blood is associated with endocarditis there is no doubt; but that it is the etiologic factor sine qua non in chorea is not proved.

The peculiarities of the coccus isolated are as follows:

1. It is of very slow growth. Sometimes the *Streptococcus viridans* does not appear in the original blood-culture for twelve days.
2. Green is produced on blood-agar plates.
3. It is of relatively slight toxicity.
4. It is not dissolved by bile as is the pneumococcus.
5. It does not peptonize milk as does *Micrococcus zymogenes*.

34 West Eighty-Third Street.

Encouraging the Health Department.—Every thoughtful citizen should know what work the health department is doing and the extent of protection from disease that is being given to him and to those dear to him. Such interest will in itself insure more efficient work, for the health department needs the moral support, the approval and at times the cooperation of all intelligent citizens.—John W. Trask, *Pub. Health Rep.*

RELATION OF THE PATHOLOGY AND THE CLINICAL SYMPTOMS OF SIMPLE AND EXOPHTHALMIC GOITER *

LOUIS B. WILSON, M.D.
Director of Laboratories, Mayo Clinic
ROCHESTER, MINN.

I have recently reviewed in fixed tissues the pathology, both gross and microscopic, of all the thyroid glands now in the laboratories of the Mayo clinic which have been removed from patients on the "exophthalmic goiter" list from Jan. 1, 1905, to Jan. 1, 1912, a total of 1,208 exophthalmic thyroids. My report on these specimens has been published elsewhere.[1] I have also examined, in the same manner, all the thyroids now in the laboratory removed from patients on the clinical "simple goiter" list from Jan. 1, 1905, to June 1, 1913, a total of 2,356 simple goiters.

The clinical grouping of these cases is not so simple as would be indicated by the two lists, "exophthalmic" and "simple." While the lists express their clinical grouping as the cases would ordinarily be arranged in most clinics, Plummer[2] has recently differentiated the goiters into three clinical groups: A, true exophthalmics distinguished by relatively rapid development, exophthalmos, etc.; B, toxic non-exophthalmics distinguished from the preceding by slow development, absence of exophthalmos, etc.; and C, non-toxic goiters, distinguished from both of the preceding by entire absence of toxic symptoms. It is therefore necessary to remember that in our "exophthalmic goiter" list, 79 per cent. are true exophthalmics, 21 per cent. are toxic non-exophthalmics and in the "simple goiter" list, 17 per cent. are toxic non-exophthalmics and 83 per cent. are non-toxic.

Each acinus of the thyroid gland can take on changes unlike those found within those adjoining it. Hence it is necessary in attempting to determine the dominant pathologic condition of the gland for purposes of classification to make a detailed analysis from the study of sections from many areas and finally to summarize the tabulated record of the observations. Such a summary can best be made from a tabulation in which numerical equivalents are used wherever possible to indicate degrees, amounts, etc. Without going into the minutiae of the specimens which I have examined, I wish to present herewith a broad summary of the results.

An examination of the accompanying table will reveal the following salient points:

1. Practically all cases of clinically true exophthalmic goiter show marked primary hypertrophy and hyperplasia of the parenchyma of the thyroid gland. Furthermore, as I have shown elsewhere,[3] the clinical stage of development of the disease is paralleled by the stage of development of the pathologic condition in sufficiently marked degree that one may estimate the clinical condition from the pathologic examination with about 80 per cent. of accuracy. The degree of severity of the clinical condition is similarly paralleled by the pathologic condition of the gland. The relationship between hypertrophy and hyperplasia of the thyroid gland and the clinical symptoms of true exophthalmic goiter is remarkably constant.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

[1] Wilson: Am. Jour. Med. Sc., 1913.

[2] Plummer: Am. Jour. Med. Sc., 1913.

[3] Am. Jour. Med. Sc., 1913, and New York Med. Rec., 1913.

2. While mild degrees of hypertrophy and hyperplasia within physiologic limits may be present in the thyroid gland, particularly in the young and during pregnancy, yet the absence of this condition in the thyroids of adults coming to operation for toxic non-exophthalmic and non-toxic goiters is most striking. Without making any allowance for either clinical or pathologic errors of diagnosis, less than 1 per cent. of all cases coming to operation for goiter show any considerable primary hypertrophy and hyperplasia of the parenchyma of the thyroid except as associated with clinical symptoms of true exophthalmic goiter.

3. Eleven per cent. of *all the thyroids on the "simple goiter"* list showed as their principal pathologic change a secondary regeneration of atrophic parenchyma. This secondary regeneration of atrophic parenchyma is marked by the development, usually on one side of an acinus, of multiple, small, new acini composed of embryonic or cuboidal epithelium surrounding a minute cavity in which is found a very small amount of usually quite densely staining colloid. This newly developed tissue may extend out into the acinus in an irregular mass which can usually be readily distinguished from the papillae of a primary hypertrophy by the small size of its cells as compared with the very large columnar cells which mark the latter. These secondary regenerations are almost invariably recent enlargements of old "colloid goiters" whose primary atrophy must have occurred years before.

4. Besides the 11 per cent. of glands of this type noted on the "exophthalmic goiter" list, 9 per cent. of the glands on the "simple goiter" list were of the same type. All the thyroids from patients on the "exophthalmic goiter" list which showed secondary regeneration were from patients whose clinical symptoms were marked toxic non-exophthalmic. Similarly, about half of the thyroids on the "simple goiter" list showing secondary regeneration were from patients who clinically gave symptoms of toxic non-exophthalmic goiter. Thus in all, above 75 per cent. of the thyroids showing secondary regeneration of atrophic parenchyma were associated clinically with symptoms of chronic toxic non-exophthalmic goiter. It would appear from this that the pathologist is safe in saying that a colloid goiter which presents a large amount of regeneration is from a patient presenting chronic toxic non-exophthalmic symptoms. It must be remembered, however, that in a large number of the glands the process is too indefinite to permit the pathologist correctly to estimate the clinical condition of the patient.

5. Ten per cent. of the thyroids from patients on the "exophthalmic goiter" list were composed principally of encapsulated adenomas. All of these were from patients with clinically toxic non-exophthalmic goiter.

6. Forty-five per cent. of the thyroids from patients on the "simple goiter" list were composed principally of encapsulated adenomas. More than half of these are distinctly of the so-called fetal adenoma type, that is, they consist of acini made up of small cuboidal or embryonic epithelium in spheroidal or columnar groups without lumina. The term "fetal adenoma" is somewhat misleading since the thyroid in late fetal life is made up almost entirely of acini with definite lumina.

The smaller portion of the adenomas contains so many acini with lumina that one is not warranted in classifying them at all as fetal and I have consequently grouped them as adult adenomas.

7. Less than 0.5 per cent. of the thyroids from patients on the "exophthalmic goiter" list but more than 44 *per cent. of the thyroids from patients on the "simple goiter"* list consist principally of groups of dilated acini filled with thick densely staining colloid material and lined with atrophic parenchyma. While many of these show varying amounts of stroma more or less segregating groups of acini, none of them have been placed in this class if they showed any considerable amount of definitely encapsulated tumors. While these partially encapsulated groups of acini may represent definite growth centers, it seems quite as probable that their partial segregation may have occurred from irregular development of the stroma after the beginning of the pathologic process. The terms "adenomatoses" and irregularly diffuse colloid thyroid may properly be applied to them.

CLASSIFICATION (IN PERCENTAGES) OF THE PRINCIPAL PATHOLOGIC CHANGES IN 3,564 THYROIDS REMOVED AT OPERATION FOR GOITER

1208 Thyroids from Patients on "Exophthalmic Goiter" List		Principal Pathologic Changes	2356 Thyroids from Patients on "Simple Goiter" List		
Clinically true exophthalmic goiter.	79%	Primary hypertrophy and hyperplasia of parenchyma.		0.6%	Clinically 17% toxic non-exophthalmic goiter, and 83% non-toxic goiter.
	(3%)	A Early.			
	(34%)	B Advanced.			
	(41%)	C Regressing.			
Clinically toxic non-exophthalmic goiter.	11%	Secondary regeneration of atrophic parenchyma.		9.0%	
	10%	D			
		Adenomas.		45.0%	
	(4%)	E Fetal.	(6%)		
	(5%)	F Degenerating fetal.	(17%)		
	(1%)	G Adult.	(22%)		
		Primary atrophy of parenchyma.		44.0%	
		H Adenomatoses, diffuse colloids, etc.			
		Malignant tumors.		1.5%	

"I Do Not Know."—While Maimonides could be so positive in his opinions with regard to a subject on which he felt competent to say something, he was extremely modest with regard to many of the great problems of medicine. He often uses the expression in his writings, "I do not see how to explain this matter." He quotes with approval from a rabbi of old who had counseled his students, "Teach thy tongue to say, 'I do not know.'" In this, of course, he has given us the best possible evidence of his largeness of mind and his capacity for making advance in knowledge. It is when men are ready to say, "I do not know," that progress becomes possible. It is very easy to rest in a conscious or unconscious pretense of knowledge that obscures the real question at issue. A great thinker who lived in the century in which Maimonides died, Roger Bacon, set down as one of the four principal obstacles to advance in knowledge—indeed, as *the* one of the four that hampered intellectual progress the most—the fact that men feared to say, "I do not know."—Walsh, Makers of Medicine.

THE IODIN CONTENT OF THE THYROID GLAND

WITH ESPECIAL REFERENCE TO THE PATHOLOGIC TYPES AND A REVIEW OF SOME EXPERIMENTAL WORK *

ERNEST V. SMITH, M.D.
Senior Assistant in Pathology

ASSISTED BY A. C. BRODERS, M.D.
Junior Assistant in Pathology, Mayo Clinic
ROCHESTER, MINN.

For many years it has been known that the normal thyroid contains a small amount of iodin in combination with a protein or albuminous substance.

The object of this paper is to present a study of the iodin content of toxic thyroids as observed in the normal and pathologic glands removed at necropsy and in the pathologic glands removed at operation in the Mayo clinic, and also to review some experimental work pertaining to the metabolic function of this gland.

The results of nearly 200 iodin determinations which have been made in the Mayo clinic agree in general with the results which have been obtained by others who have worked along this same line. Wherein our results differ from the usually accepted findings will be shown by a comparison of the data. The same method of determining the iodin content was used which Hunter[1] advocates and the precautions which he mentions in his original article on the subject were observed. In all these iodin determinations blank controls were run with each analysis, and every analysis represents the average of from 2 to 6 tests on the same gland. Every precaution was taken in the preparation of the desiccated thyroid. The glands were finely minced within a few minutes following their removal. When it was not desired to use the entire gland, representative parts were taken. These portions were dried to a constant weight and powdered finely enough to pass through an eighty-mesh sieve.

A brief outline of the Hunter method is as follows:

> One gram of desiccated thyroid gland is mixed in a nickel crucible of about 125 c.c. capacity, with 15 gm. of a mixture composed of 138 parts by weight of anhydrous potassium carbonate, 106 parts of anhydrous sodium carbonate and 75 parts potassium nitrate, and an additional 5 gm. of this fusion mixture spread evenly over the surface. The crucible is then heated over a free Bunsen flame until no further carbonization is observed; it is cooled and the friable residue dissolved in about 150 c.c. of distilled water. To this solution contained in an Erlenmeyer flask of about 500 c.c. capacity, is added approximately 50 c.c., or its equivalent, of fresh liquor sodae chlorinatae U. S. P. (containing 2.4 weight per cent. of chlorin). The mixture is then treated with enough phosphoric acid (1 volume of the 85 per cent. syrup and 1 volume of water), to produce a marked yellow tint of free chlorin, an additional 10 c.c. of the phosphoric acid is then added and the contents of the flask boiled for about one-half hour or until the volume has been reduced to about 150 c.c. The liquid is cooled, 10 c.c. of 1 per cent. aqueous potassium iodid solution is added and the liberated iodin titrated with two-hundredth-normal sodium thiosulphate, adding starch paste as the indicator just before the end of the reaction. The two-hundredth-normal sodium thiosulphate may be made by diluting 25 c.c. of exactly tenth-normal thiosulphate to 500 c.c.; it changes strength rapidly and should be prepared fresh at each time determinations are made. One cubic centimeter of two-hundredth-normal thiosulphate corresponds to 0.0001058 gm. iodin derived from the sample of thyroid used.

Usually it is true that the iodin content of the normal thyroid is the greatest; the content of the colloid gland is less and that of the parenchymatous hypertrophic and hyperplastic gland is least per gram weight of dried gland. Roughly estimated, the normal thyroid will contain about 2.5 mg., the colloid gland about 1.5 mg. and the hyperplastic gland about 0.5 mg. of iodin per gram weight of dried gland.

An analysis of the iodin determinations which were made from 49 glands removed in the surgical treatment of hyperthyroidism is presented in the accompanying tables. The parenchymatous hypertrophic and hyperplastic glands are classified in three groups—A, B and C, A and B being those glands which show very marked hypertrophy and hyperplasia and C being those glands which show regression stages with a greater amount of more or less densely staining colloid.

This histologic classification is from that proposed by Wilson.[2] The chemical study was completed without a knowledge of the histologic classification in order that there might be no possibility of a biased finding.

TABLE 1.—EXOPHTHALMIC GOITERS OF GROUPS A AND B (PARENCHYMATOUS HYPERTROPHY AND HYPERPLASIA) ON WHICH IODIN DETERMINATIONS WERE MADE*

Of. No.	Sex	Age	Dates of Ligations	Date of Operation	Weight	Amount	Density	Amt. of Iodin
63655	F	27	2/ 5/12	8/ 7/12	160	2	2	0.23
65575	F	32	3/28/12	7/25/12	130	3	2	0.66
66360	F	35	4/15/12, 4/20/12	10/21/12	40	1	2	0.20
66872	F	27	4/23/12, 5/ 1/12	11/ 4/12	50	1	1	0.12
67290	F	26	5/ 4/12, 5/14/12	10/24/12	100	2	2	0.28
67491	F	20	5/11/12, 5/16/12	9/24/12	50	2	2	0.90
67993	M	17	6/ 1/12, 6/ 8/12	10/ 3/12	110	3	1	0.26
68459	F	19		6/ 6/12	80	2	2	0.25
68720	F	34	6/17/12	10/ 8/12	45	3	1	0.28
69198	F	50	6/ 9/12, 7/ 4/12	10/ 2/12	75	3	1	0.15
68208†	F	22		7/22/12	60	3	3	1.17
70239	F	35	7/25/12, 8/ 6/12	11/11/12	70	1	1	0.38
74094	F	48	10/ 1/12	10/ 8/12	20	2	1	0.41
49547	F	18	10/ 2/12	10/ 9/12	55	3	2	0.88
74127	M	43	10/ 3/12	10/10/12	30	3	1	0.57
74735	F	30		10/19/12	40	2	2	0.73
75124	F	26	10/28/12	11/ 6/12	40	2	2	1.27
75531	F	18	11/ 7/12	11/15/12	40	1	2	0.80
75743	F	29	11/11/12	11/15/12	75	1	1	0.48
75733	F	31		11/12/12	50	2	2	0.92

* The dagger (†) in the column of official numbers designates the specimen belonging to Group A; the others belong to Group B.

As will be seen from a study of Tables 1 and 2, twenty of the forty-nine glands of the parenchymatous hypertrophic and hyperplastic class are of the Groups A and B (early and advanced parenchymatous hypertrophy and hyperplasia). The average iodin content of these twenty glands is 0.54 mg. per gram weight of dried gland. The smallest amount of iodin found in any of these markedly hyperplastic glands was 0.12 mg. per gram weight of dried gland. The largest amount was 1.27 mg. There were twenty-nine glands of the hyperplastic type which histologically are classified in group C (regressing parenchymatous hypertrophy and hyperplasia). The average iodin content for this group is 1.52 mg. of iodin per gram weight of dried gland. The smallest amount of iodin found in any gland of this group was 0.44 mg. per gram of dried gland, and the largest amount was 4.79 mg. It is among the glands found in this group that our findings differ from the results as recorded by Marine and Lenhart[3] working along this same line. From Table 2, it is noted that there are three cases in which the iodin content was found to be well above that which is generally accepted to be the average amount found in the normal thyroid, and there are sixteen cases which show an amount above 1.30 mg., which is usually accepted as the minimum for normal thyroids. In other words, about 33 per cent. of hyperplastic glands show a high iodin content.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

[1] Hunter: Jour. Biol. Chem., vii, May, 1910.

[2] Wilson: Northwest Medicine, January, 1913.

[3] Marine, David, and Lenhart, C. H.: Relation of Iodin to the Structure of Human Thyroids, Arch. Int. Med., November, 1909, p. 440.

Many of the glands analyzed for iodin were from patients who had a ligation previous to the time of removal of the gland. The question naturally arises, Did the ligation affect the iodin content? From the table showing thyroids of groups A and B—those representing early and marked hypertrophy and hyperplasia—it is noted that there are only four patients in whom ligation was not done previous to operation. The average iodin content from these four patients is found to be 0.77 mg. The average iodin content for the sixteen patients in whom ligation had been done shows 0.49 mg. The glands of these groups then show a loss in the iodin content following ligation.

TABLE 2.—LIST OF EXOPHTHALMIC GOITERS OF GROUP C (PARENCHYMATOUS HYPERTROPHY, HYPERPLASIA AND REGRESSION) ON WHICH IODIN DETERMINATIONS WERE MADE

Of. No.	Sex	Age	Dates of Ligations		Date of Operation	Weight	Amount	Secretion Density	Amt. of Iodin
64836	F	44	3/ 7/12,	3/12/12	7/ 3/12	100	2	2	0.44
67571	F	41	5/15/12,	5/23/12	8/28/12	30	3	3	1.33
67693	F	28	5/18/12,	5/28/12	10/ 1/12	90	3	2	1.64
68378	F	32	6/ 1/12,	6/ 6/12	11/ 6/12	80	3	2	1.21
68390	F	28	6/ 4/12,	6/10/12	9/ 4/12	50	3	2	0.46
68790	F	43	6/20/12		10/ 7/12	30	2	2	0.49
69368	F	20	7/ 1/12,	7/ 8/12	11/ 1/12	120	3	2	1.34
70458	F	34	7/18/12		12/20/12	70	3	2	0.46
70539	M	38	7/26/12		10/24/12	35	3	3	1.12
70821	F	51	7/31/12,	8/ /12	12/11/12	70	2	2	0.45
72542	F	38	8/28/12		9/ 4/12	40	2	2	0.53
73226	F	39	9/10/12,	9/19/12	10/10/12	90	3	3	1.18
73217	F	36	9/16/12		9/24/12	47	3	3	1.29
73011	F	34	9/18/12		9/24/12	35	3	4	4.74
73815	M	29	9/25/12		10/ 3/12	100	3	3	1.72
73863	F	42	9/27/12,	10/ 5/12	10/10/12	25	3	3	1.62
73616	F	32	10/ 1/12,	10/ 7/12	Aut. 175		4	4	4.79
73982	M				Aut. 170		3	3	2.18
74095	M	18	10/ 7/12,	10/14/12	2/ 1/13	30	3	3	2.18
74284	F	23	10/ 9/12		10/19/12	50	3	3	1.65
74930	F	29	10/18/12		10/28/12	45	2	3	1.51
74909	F	26	10/18/12		10/28/12	80	3	3	1.65
74873	F	34			10/19/12	30	2	2	0.99
74929		35	10/30/12		11/ 7/12	50	2	3	1.24
75164	F	39	10/30/12		11/ 6/12	45	3	3	1.66
75498	M	26	11/ 2/12		11/ 2/12	90	3	3	1.46
75496	M	30	11/8/12		11/15/12	90	4	3	1.94
76959	F	35			12/11/12	65	2	3	1.87
77136	F	34	12/14/12		12/20/12	50	3	2	1.09

The same condition is found to be true in the glands listed in Group C. There are twenty-nine glands of this group on which iodin determinations have been made. Only three from this group have not had ligations previous to removal. The average iodin content of these three glands is found to be 1.68 mg., while the content of the twenty-six glands of this group which had a previous ligation show an average iodin content of 1.50 mg. When the iodin content of the whole class of hyperplastic glands is considered and the content of the nonligated glands compared to the content of those which have had a previous ligation, it is found that the average for the non-ligated glands is slightly below those which have been ligated.

It is our opinion, from a study of the preceding data, that ligation in the majority of cases slightly decreases the iodin content of hyperplastic glands. It is true that the averages of the non-ligated cases are computed from a small number. However it is significant that the results are similar in both groups of cases.

Does age play any part in the amount of iodin found in the hyperplastic gland? Ten patients who were between 17 and 30 years of age show an average iodin content of 1.02 mg. Ten patients who were all above 30 years of age show an average iodin content of 0.71 mg. It is evident from these figures that hyperplastic glands of patients from 30 to 50 years of age contain less iodin per gram weight than do those glands from patients of 15 to 25 years of age.

The size of the hyperplastic gland also seems to bear some relation to the amount of iodin per gram weight of dried gland. The larger glands of group C are found to have less iodin per gram of dried gland than the smaller glands. An average of eleven of the larger glands of Group C show 1.37 mg. of iodin as compared with 1.59 mg., the average of eleven small glands. The same condition also exists in the case of glands of Groups A and B. Averages on eight large and a like number of small glands from these groups show the amount of iodin as 0.33 mg. in case of the large glands as compared to 0.56 mg. in case of small glands.

In considering the amount of iodin found in the thyroid, at least two factors regarding the nature of the colloid substance must be considered. The first factor of importance is the amount of colloid. The second factor is the density of the colloid. There are certain hyperplastic glands which have large acini, filled with a thin or watery secretion, which do not have so great an iodin content as some other glands whose acini may not be so large but whose secretion is denser. As a rule, the denser the secretion, the deeper it stains and the larger amount of iodin it contains.

The iodin determinations of seventeen simple colloid goiters classified in Group II (colloid thyroids) show an average iodin content of 1.84 mg. of iodin per gram weight of dried gland. The minimum amount found in any of the colloid glands was 0.41 mg. per gram weight and the maximum amount was 3.33 mg. These variations are about the same as those found by Marine and Lenhart,[3] except that both our maximum and minimum are slightly below what they found.

It is usually found that the pure fetal adenomas contain very small amounts of iodin. This is to be expected, as the colloid in such glands is small in amount and rarely of much density as shown by its staining reaction.

In connection with this work on the iodin content of the thyroid as found in pathologic specimens, I have carried out a series of experiments on dogs to determine to what extent the iodin content of their thyroids would be affected by the administration of the iodids and which form of medication would produce the greatest increase in iodin content.

Fourteen dogs have been used in these experiments. In selecting the dogs, endeavor was made to obtain dogs as near the same size and weight as possible. Previous to the time of beginning the experiments, they were kept under the same conditions as to housing and feeding. During the period of administration of iodids, the dogs were kept and fed under the same conditions. The methods of administration of iodids were as follows:

1. The painting of the U. S. P. tincture of iodin on the shaven skin.

2. The administration, by mouth with the food, of a one to one aqueous solution of potassium iodid in doses ranging from 15 to 30 drops each day.

3. The subcutaneous injection of from 20 to 45 drops of a one to one solution of potassium iodid diluted to 5 c.c., one injection each day.

Three dogs of the entire number were used as controls and to these no iodids were given. The determination of the iodin content of the thyroids removed from the three control dogs was 2.58 mg. of iodin per gram weight of dried gland. Five dogs were painted with the tincture of iodin and the average iodin content of these glands was 6.5 mg. per gram weight of dried gland. Three dogs had subcutaneous injections of potassium iodid. The average iodin content of their glands was 5.53 mg. Four dogs were given potassium iodid with their food. The average iodin content of their glands was 2.73 mg.

TABLE 3.—SHOWING THE STORAGE POWER OF THE THYROID GLANDS OF DOGS REGARDING IODIN

No of Dog	Treatment	No. of Treatments	Dose Given	Date of Removal	Amt. of Iodin in mg. per Gram
1	None	0	0	8/ 4/12	2.50
4	None	0	0	8/28/12	3.86
7	None	0	0	8/15/12	1.40
2	KI with food......	5	45M	8/15/12	1.61
11	KI with food......	10	30M	10/28/12	1.47
12	KI with food......	14	35M	10/28/12	5.10
5	KI injected........	7	15	8/28/12	5.30
8	KI injected........	7	15	9/17/12	3.54
14	KI injected........	16	30	11/20/12	7.86
3	Tr. iodin painted...	5	4"x5"	8/15/12	5.57
6	Tr. iodin painted...	7	4"x"5	8/28/12	5.43
9	Tr. iodin painted...	7	4"x5"	9/16/12	7.66
10	Tr. iodin painted...	11	4"x6"	10/28/12	3.64
13	Tr. iodin painted...	16	8"x8"	11/20/12	10.18

It was noted from these methods of administration that the external application of the tincture of iodin caused the greatest average increase of the iodin content of the gland. It was further noted that the dogs, receiving the subcutaneous injection of the iodid lost weight very rapidly. While these dogs did not store up so much iodin in their thyroids as the dogs which were painted with the tincture, yet they seemed to experience a much greater systemic effect from the drug. When the potassium iodid was fed with the food, it caused very little increase in the iodin content.

Pathologists doing post-mortems often see the final picture in the most extreme cases of hyperthyroidism and it is from such cases and from a review of all the cases which have come to necropsy that three most constant conditions are encountered.

1. The extreme emaciation of all patients dying from hyperthyroidism is mentioned. That the iodids when given in large doses over a period of time do cause a great loss in body weight there is no doubt. The same therapeutic fact is taken advantage of by manufacturers of proprietary antifat remedies and preparations of thyroid are greatly used by them.

2. The general appearance which the intestinal tract presents is noted, i. e., the contracted intestines which have a congested appearance with the mesenteric vessels engorged with blood; such a condition may be produced by chronic poisoning with any of the metallic poisons. A similar condition has been noted in animals which we have sacrificed after chronic iodin poisoning.

3. The microscopic picture of a section of the liver. Almost invariably, the section shows fatty degeneration (lipoid changes) of various degree. This lipoid change of the liver is the result of some chronic intoxication. The question naturally arises, What is the nature of the poison producing it? It is well known that such fatty changes occur in many chronic diseases. Tuberculosis and chronic alcoholism might be cited as examples in which such a change frequently occurs. It has been known for many years that phosphorus will produce a lipoid change of the liver when given in toxic doses. Will iodin also produce such a lipoid change when so given? Cushny[4] says that iodin, like phosphorus, does produce a fatty degeneration (or lipoid change) in the liver and other organs. Further, he says that thyroid likewise produces a fatty degeneration in various organs when given in excessive doses to the point of poisoning.

A poison known as acetonitrile has been used by Hunt[5] as a measure to determine thyroid activity. He found that by feeding white mice with cracker cakes containing desiccated thyroid, *their resistance to acetonitrile poisoning* was increased.

Following Hunt's plan, I have carried out a series of experiments on white mice, feeding them with the desiccated thyroid of parenchymatous hypertrophic and hyperplastic and colloid glands removed at operation. Cracker cakes were used as a food for the controls and cracker cakes, to which the fresh desiccated glands were added, were used as a food for experiment. It was found that those mice which received the cracker cakes containing the desiccated parenchymatous hypertrophic and hyperplastic glands have a slightly greater resistance to acetonitrile than those mice which were fed on the plain cracker cakes. Those mice fed with cracker cakes to which the desiccated colloid goiters had been added had a higher resistance than either the controls or those fed with hyperplastic glands. In neither group was it possible to produce a resistance equal to that produced by Reid Hunt when he fed the desiccated commercial thyroid made from the sheep.

By painting the tails of the mice with tincture of iodin on three or four successive days, however, it was found that an increase in resistance to acetonitril poisoning was obtained equal to and, in many cases, greater than that obtained by feeding with desiccated thyroids. When the painting is carried beyond the seventh or eighth day, the degree of resistance becomes less positive due to the poisonous effects produced by the iodin.

Regarding chronic iodism in man, the United States Dispensatory[6] gives the following symptoms:

> Even in medicinal doses, it sometimes causes alarming symptoms such as fever, restlessness, disturbed sleep, palpitations, excessive thirst, acute pain in the stomach, vomiting and purging, violent cramps, frequent pulse and, finally, progressive emaciation if the medicine be not laid aside. *Absorption of the mamma and wasting* of the testicle have been reported as caused by the long-continued use of the drug.

It will be noted that many of the symptoms present in chronic iodism correspond very closely to those of hyperthyroidism.

Clinical experience regarding the use of iodids in simple goiter demonstrates that there is a certain class of patients who often receive great benefit from the administration of the iodids in some form. On the contrary, cautious physicians empirically hesitate to prescribe large doses of the iodids to patients with severe cases of hyperthyroidism *for fear of increasing the* symptoms. It is a well-known fact that some individuals are very susceptible to the iodids. Berg[7] has reported several cases of patients receiving full doses of iodids, who rather suddenly developed the symptoms usually noted in hyperthyroidism. Physicians writing in the early part of the last century, who, in many things, were very close observers, recognized that there were cases of "bronchocele" that were made much worse by large doses of iodids. The following paragraph was written before the time that the train of symptoms known to-day as hyperthyroidism was generally recognized:[8]

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[4] Cushny: Pharmacology and Therapeutics.
[5] Hunt: Hygienic Laboratory Bull. 69, June, 1910.
[6] U. S. Dispensatory, Ed. 19, p. 667.
[7] Berg: Deutsch. med. Wchnschr., 1911, xxxvii, 300.

> After a few weeks' skilful administration of potassium iodid the external swelling will gradually disappear. Should the patient, while under a course of it, experience any considerable quickening of the pulse, a rapid loss of flesh, palpitation of the heart, a dry cough, restlessness and want of sleep and, in certain cases, with an increase of appetite for food, though the swelling shall undergo diminution, it will be necessary to intermit the medicine for some days and afterwards resume the use of it when the health and safety of the patient will permit.

On the hypothesis that the symptoms of hyperthyroidism are those produced by chronic iodism, how may the physiology of the thyroid be explained? It is possible that one of the functions of the thyroid is the control of iodin metabolism and that it bears a relation to iodin which might be compared to the relation of the liver with glycogen. There may be conditions under which the thyroid fails in its control of this iodin metabolism, and the continued intake of iodin into the system from natural sources, without its being metabolized, produces the chronic poisoning.

TABLE 4.—EXPERIMENTS ON MICE

Mouse Number	Method of Feeding	Number of Days Fed	Iodin Content of Substance Mixed with Cracker Cakes	Weight of Gland in Each Cracker Cake	Date of Test	Gram Weight of Mouse	Dose in milligrams Acetonitril	Dose per mg. gram of Mouse	Results: + died 0 lived
1a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	8/ 3/12	20.6	6.66	0.32	0
2a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	9/14/12	17.6	7.01	0.4	0
3a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	5/14/12	16.6	8.30	0.5	0
4a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	9/20/12	18.7	9.83	0.525	0
5a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	9/20/12	17.0	9.35	0.55	0
6a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	9/20/12	19.1	10.98	0.575	+
7a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	9/14/12	17.4	10.44	0.6	+
8a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	8/ 3/12	23.3	16.19	0.7	+
9a	Plain cracker cakes	18	Fed on plain cracker cakes	Absent	8/17/12	15.7	9.42	0.6	+
10a	Plain cracker cakes	20	Fed on plain cracker cakes.	Absent	8/14/12	17.3	12.11	0.7	+
1b	Desiccated Exop. fed with crackers.	20	0.5 mg. of iodin per gm. wt. of gland used. Gland taken from Class B. Ph&h.	0.3 gm. in each cracker fed. One cracker weighed 4 gm.	9/12/12	16.0	9.6	0.6	0
2b	Desiccated Exop. fed with crackers.	20	0.5 mg. of iodin per gm. wt. of gland used. Gland taken from Class B. Ph&h.	0.3 gm. in each cracker fed. One cracker weighed 4 gm.	9/12/12	25.3	15.3	0.6	0
3b	Desiccated Exop. fed with crackers.	21	0.5 mg. of iodin per gm. wt. of gland used. Gland taken from Class B. Ph&h.	0.3 gm. in each cracker fed. One cracker weighed 4 gm.	9/21/12	26.3	16.98	0.6	0
4b	Desiccated Exop. fed with crackers.	21	0.5 mg. of iodin per gm. wt. of gland used. Gland taken from Class B. Ph&h.	0.3 gm. in each cracker fed. One cracker weighed 4 gm.	9/21/12	22.4	15.68	0.7	+
5b	Desiccated Exop. fed with crackers.	20	0.5 mg. of iodin per gm. wt. of gland used. Gland taken from Class B. Ph&h.	0.3 gm. in each cracker fed. One cracker weighed 4 gm.	9/20/12	18.3	10.98	0.6	+
1c	Desiccated colloid Class II. Fed with crackers, cakes.	14	Average 1.5 mg.	0.3 gm. in each cracker fed.	9/16/12	21.9	15.33	0.7	0
2c	Desiccated colloid Class II. Fed with crackers, cakes.	20	Average 1.5 mg.	0.3 gm. in each cracker fed.	9/12/12	15.5	14.4	0.8	0
3c	Desiccated colloid Class II. Fed with crackers, cakes.	21	Average 1.5 mg.	0.3 gm. in each cracker fed.	9/21/12	21.3	19.17	0.9	+
4c	Desiccated colloid Class II. Fed with crackers, cakes.	20	Average 1.5 mg.	0.3 gm. in each cracker fed.	9/12/12	18.5	20.4	1.1	+
1dg	Painted with Tr. I.	4x	Fed on plain cracker cakes.	Absent	10/ 8/12	19.4	11.64	0.6	0
2dg	Painted with Tr. I.	4x	Fed on plain cracker cakes	Absent	10/ 8/12	17.2	12.04	0.7	0
3dg	Painted with Tr. I.	4x	Fed on plain cracker cakes	Absent	10/ 8/12	18.8	15.04	0.8	0
4dg	Painted with Tr. I.	4x	Fed on plain cracker cakes	Absent	10/ 8/12	24.4	24.4	1.0	+
5dg	Painted with Tr. I.	4x	Fed on plain cracker cakes	Absent	10/ 4/12	18.1	18.1	1.0	0
6dg	Control.	0	Fed on plain cracker cakes.	Control	10/ 4/12	20.0	10.0	0.5	+
7dg	Control.	0	Fed on plain cracker cakes.	Control	10/ 8/12	18.2	9.1	0.5	0
8dg	Control.	0	Fed on plain cracker cakes	Control	10/ 8/12	20.4	12.24	0.6	+
9df	Painted with Tr. I.	8x	Fed on plain cracker cakes.	Absent	9/22/12	14.7	14.70	1.0	0
10df	Painted with Tr. I.	8x	Fed on plain cracker cakes.	Absent	9/22/12	17.7	31.86	1.8	0
11df	Control.	0	Fed on plain cracker cakes.	Control	9/22/12	15.2	12.16	0.8	+
12de	Control.	0	Fed on plain cracker cakes.	Control	9/27/12	21.1	12.66	0.6	+
13de	Control.	0	Fed on plain cracker cakes.	Control	9/27/12	13.6	10.88	0.8	+
14de	Painted with Tr. I.	7x	Fed on plain cracker cakes	Absent	9/27/12	17.2	17.2	1.0	0
15de	Painted with Tr. I.	7x	Fed on plain cracker cakes	Absent	9/27/12	15.1	15.23	1.+	0
16de	Painted with Tr. I.	7x	Fed on plain cracker cakes	Absent	9/27/12	16.9	21.9	1.3	+
17de	Painted with Tr. I.	7x	Fed on plain cracker cakes.	Absent	9/27/12	14.0	28.0	2.0	+

That the thyroid does act as a storehouse to iodin has been demonstrated frequently. It seems possible that it is the iodin, which is not stored or metabolized by the thyroid, which produces the Basedow syndrome. It is more easily stored or metabolized when administered in the pure form than when given in a combined state. The activity of various desiccated thyroid preparations apparently depends on their iodin content. Both theoretically and practically they are the most active of the iodin preparations.

We continually receive from food and water and possibly air a certain amount of iodin in various forms. Seidell and Fenger[9] point out that in cattle, sheep and hogs there is a seasonal variation in the iodin content of the thyroid glands. Possibly such seasonal variations are from the food which they receive, their iodin content beginning to rise as soon as the pasture comes.

Kocher[10] has shown that patients suffering with Basedow's disease, when treated with iodids, excrete a larger proportion in the urine than do normal individuals. From this it may be inferred that they do not metabolize iodin to the extent the normal person does.

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[8] Medical Lexicon.

[9] Seidell and Fenger: Jour. Biol. Chem., January, 1913, p. 517.

[10] Kocher: Mitt. a. d. Grenz. d. Med. u. Chir., xiv, pp. 359-424.

There are many things concerning the toxic goiter which we do not understand, but it may be possible that it is the faulty metabolism by the thyroid as much as the hypersecretion which acts in producing the symptoms known to-day as hyperthyroidism.

A COMPARATIVE STUDY OF THE EFFECTS ON BLOOD-PRESSURE OF THE EXTRACTS AND SERUMS OF EXOPHTHALMIC GOITER AND OF OTHER SUBSTANCES *

A. H. SANFORD, M.D.
AND
J. M. BLACKFORD, M.D.
ROCHESTER, MINN.

When injected intravenously into laboratory animals, extracts of most tissues show the presence of one or more substances with some depressor action. Rabbits and cats have been used for these experiments, but the dog is the animal best adapted for the purpose. By using an arterial cannula direct records of blood-pressure are obtained by means of the mercury manometer and the kymograph. It is observed also that with certain substances a marked fall in blood-pressure occurs on the first injection, but on the administration of a second dose a few minutes later a remarkable tolerance is revealed. The action of peptone on the blood and blood-pressure has been the subject of physiologic investigation for years. This substance causes a marked fall in blood-pressure with a subsequent tolerance to the same dose when injected intravenously.

Howell,[1] Jordan and Eyster,[2] Dixon and Halliburton,[3] and others, working with pineal extracts, have shown a fall in blood-pressure followed by a less marked effect on the second injection. A rise in blood-pressure followed by tolerance has been shown for the hypophysis by Howell,[1] and Lewis, Miller and Matthews.[4] There have been various conflicting results with the intravenous injections of extracts of the thyroid gland. We can confirm the results of Gley,[5] Schönborn[6] and others that in proper dosage there is a primary fall in blood-pressure and a less marked effect on second injections of extracts of goiters.

Brodie,[7] in his work with horse-serum injected into cats, noted a fall in blood-pressure with a subsequent tolerance. He noted further that the animal is protected by this first dose against the action of similar substances. He does not state, however, what his control substances were. Gley and Cleret[8] found that in a series of six patients suffering from exophthalmic goiter the serums of two caused a marked fall in blood-pressure in dogs, and a second dose of the same serums had little or no effect.

On the other hand, while cholin may cause a marked fall in blood-pressure when injected intravenously, it does not produce a tolerance. Halliburton[9] has shown by chemical analysis that cholin is abundant in extracts from brain-tissue and is the depressor substance. This is probably the substance causing lowering in pressure in extracts of any tissue in which proteolytic changes may have occurred. We believe that if the extract of a tissue shows the presence of a depressor substance without tolerance following, the presence of proteolytic change should be suspected. It would seem also that this proteolytic change begins in the tissues very soon; thus nothing but fresh extracts should be used.

In our work with the above-mentioned substances and other extracts of tissue, we may have gone a step farther than other investigators in that we have used a number of different substances in the same animal. It seems that the action of an extract producing tolerance to subsequent injections is more or less specific. The administration of an extract of another sort of tissue is followed by all the phenomena peculiar to that substance, without regard to that which has been employed previously. This specificity of action is also shown most markedly in the action of peptone and also in the extracts containing cholin when administered before or after the extracts of tissues. Our protocols (Tables 1 to 10, inclusive) show the effect produced by these substances on the blood-pressure of the dog.

TECHNIC

Extracts and Solutions.—All extracts were made from fresh tissue, minced, ground with sand and mixed with physiologic salt solution, 1 c.c. for each gram of tissue. After macerating for an hour or so, the solution was filtered through glass wool. Control extracts from normal dog tissue were made immediately after killing a dog, the brain, thyroid, spleen, pancreas and testes being removed and prepared as described.

It was found that a potent dose of thyroid, especially if the tissue was hyperplastic, was 0.5 c.c. of extract (0.5 gm. of tissue) per kilogram. Peptone control was made in 10 per cent. solution and administered in the same dosage, 0.5 c.c. per kilogram. Various commercial extracts of thyroid were used as controls and found to possess less marked effect on blood-pressure than fresh extracts.

To obtain serum, the patient was bled into a flask of about 180 c.c. capacity, and on the following day, after contraction of the clot had taken place, the serum was separated. The dose of serum producing marked effect in suitable cases was found to be from 2.5 to 4 c.c. per kilogram.

Operative Procedures.—Dogs anesthetized with ether after a preliminary dose of morphin were used for our series of experiments. For securing a direct blood-pressure tracing on the long paper kymograph the left carotid was used; when the vagus was stimulated the nerve on the right side was used. The extracts and serums were injected with a syringe of suitable size into the right femoral vein. Half saturated magnesium sulphate and also the usual sodium carbonate and sodium bicarbonate solutions were used to prevent clotting. In our first experiments a transmitting tambour was used in producing tracings; later a float and the direct method were employed.

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* From the Mayo Clinic.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

* Because of lack of space, Tables 3, 7, 8, 9 and 10 with descriptions have been omitted. The complete article will be published in the Transactions of the Section and in the authors' reprints.

1. Howell: Jour. Exper. Med., 1898, iii, 245.
2. Jordan and Eyster: Am. Jour. Physiol., 1911, xxix, 115.
3. Dixon and Halliburton: Quart. Jour. Exper. Physiol., 1909, ii, 283.
4. Lewis, Dean; Miller, Joseph L., and Matthews, S. A.: The Effects on Blood-Pressure of Intravenous Injections of Extracts of the Various Anatomic Components of the Hypophysis, Arch. Int. Med., June, 1911, p. 785.
5. Gley: Jour. de physiol. et de path. gén., 1911, xiii, 955.
6. Schönborn: Arch. f. exper. Path. u. Pharmakol., 1909, lx, 390.
7. Brodie: Jour. Physiol., 1900-1901, xxvi, 48.
8. Gley and Cleret: Jour. de physiol. et de path. gén., 1911, xiii, 928.
9. Halliburton: Jour. Physiol., 1900-1901, xxvi, 229.

The accompanying tables give a complete record of all the experiments performed. Though there are a great many negative results, we feel that they may be of interest to others and that they should be published in detail.

DISCUSSION OF TABLES

The first experiment described in Table 1 shows the great drop in blood-pressure produced by a single injection of extract of hyperplastic thyroid. Table 1, No. 2, demonstrates the presence of an unusually potent depressor, as is also shown by the effect of the same extract in Table 5, No. 6. The tolerance produced by the first injection toward subsequent injections is shown in Table 1, No. 3. In general, it may be stated that this tolerance is most manifest when the first injection produces a marked reaction. Table 1, No. 5, shows good tolerance to fresh extracts after the first injection and also the typical action on both first and second injections of decomposed extracts. Atropin inhibits the action of cholin; that this drug has no effect on the action of the depressor in fresh extracts of hyperplastic thyroids is shown in Table 1, No. 6.

The series of experiments given in Table 2 is small, but at least two of the experiments are of interest. The same phenomenon may be noted in both No. 2 and No. 3; that is, tolerance produced by a good drop on the first injection of extract of hyperplastic thyroid, and the lack of any effect when serum from a patient having exophthalmic goiter is injected. The second extract injected in Table 2, No. 2, probably had undergone some proteolytic change. No. 3 also shows the action of a peptone solution and extract of carcinoma, with tolerance to second injections of each substance.

Four experiments in Table 3, Nos. 4, 5, 6 and 7, show no effect when extracts of non-hyperplastic goiters were injected after primary injections of extracts of goiters

TABLE 1.—INJECTIONS OF EXTRACTS OF HYPERPLASTIC

Dog No. Serial	Dog No. Kennel	Date	Wt. Kg.	B. P. mm. Hg	First Substance Injected	B. P. ½ Min. Later	Drop mm. Hg	Interval Mins.	B. P. mm. Hg
1	245	5/17/12	10 5	150	Ext. hyperplast. thy., 6 c.c. (Case 61699)	70	80		
2	327	9/13/12	6.0	145	Ext. hyperplast. thy., 3 c.c. (Case 68830)†	60	85		
3	481	2/26/13	6 5	180	Ext. hyperplast. thy., 6 c.c. (Case 80439)	90	90	2	
				160	Ext. hyperplast. thy., 6 c.c. (Case 80439)	140	20		
4	370	11/11/12	7.0	110	Ext. hyperplast. thy., 5 c.c. (Case 70239)	107	3	35	103
				107	Ext. hyperplast. thy., 5 c.c. (Case 70239)	97	10	2	113
5	414	1/ 7/13	5.5	160	Ext. hyperplast. thy., 3 c.c. (Case 77976)	125	35	1	160
				153	Ext. hyperplast. thy., 3 c.c. (Case 77976)	146	7	3	...
6	480	2/26/13	8.0	155	Vagus active 1-50 grain atropin. Vagus blocked	...	..	..	155
7	384	12/ 9/12	4.7	175	Ext. hyperplast. thy., 2.5 c.c. (Case 70313)	70	75	20	...

* In these and the following experiments, when a second injection of a substance was made, the record appears immediately be

† Dog died. (See Table 5, No. 6, in which same substance was used.)

TABLE 2.—INJECTIONS OF EXTRACTS OF HYPERPLASTIC THYROIDS FOLLOWED

Dog No Serial	Dog No Kennel	Date	Wt. Kg.	B. P. mm. Hg	First Substance Injected	B. P. ½ Min. Later	Drop mm. Hg	Interval, Min.	B. P. mm. Hg	Second Substance Injected
1	285	7/ 3/12	7	102	Ext. hyperplast. thy., 3 c.c.	75	27	3	100	Ext. hyperplast. thy., 3 c.c.
						..	..	..	90	Ext. hyperplast. thy., 3 c.c.
2	274	7/19/12	13	120	Ext. hyperplast. thy., 5.5 c.c. (heated to 60 C.)	60	60	4	135	Exoph. serum, 30 c.c. (Case 70458)
				125	Ext. hyperplast. thy., 5.5 c.c. (heated to 60 C.)	125	..	5	...	
3	483	3/ 4/13	11	130	Ext. hyperplast. thy., 5.5 c.c. (Case 80707)	62	68	4	130	Exoph. serum, 28 c.c. (Case 86690)
				128	Ext. hyperplast. thy., 5.5 c.c. (Case 80707)	128	..	5	...	

TABLE 4.—INJECTIONS OF SERUMS FROM EXOPHTHALMIC GOITER PATIENTS

Dog No. Serial	Dog No. Kennel	Date	Wt. Kg.	B P. mm Hg	First Substance Injected	B. P. ½ Min. Later	Drop mm. Hg	Interval Mins.
1	192	6/ 6/12	9.5	125	Exoph. serum, 21 c.c. (Case 68628)	50	75	9
				100	Exoph. serum, 21 c.c. (Case 68628)	80	20	..
2	262	6/24/12	6.6	125	Exoph. serum, 21 c.c. (Case 69347)	115	10	..
3	333	9/ 7/12	9.0	130	Exoph. serum, 30 c.c. (Case 59547)	130	..	..
4	457	2/ 8/13	11.0	95	Exoph. serum*			

* Dog died at once. Injection into external jugular.

with hyperplasia. Iodothyrin was used twice in this series (Nos. 2 and 3) as a control substance, with no effect. No. 8 illustrates well the action of extract of brain. This is probably a cholin action; the comparison between this action and that of decomposed extracts is striking (see Table 1, No. 5). The tolerance toward the pressor substance on second injections of pituitary extract, shown in Table 3, No. 9, is characteristic of this extract.

The effects of injecting serum from patients with different degrees of intoxication has been made the subject of a separate study and is reported elsewhere.[10] The patients from whom serum was used (Table 4, No. 1, Table 5, Nos. 1 and 2, and Table 6, Nos. 2 and 4), were all acutely toxic from exophthalmic goiter. The rest were not at or near the height of their intoxication. The apparent tolerance for extracts of hyperplastic goiters, produced by first injecting serum from patients having exophthalmic goiter, is seen in Table 5, Nos. 1, 2 and 4. We should expect a greater drop in blood-pressure here, as the extracts were made from typical hyperplastic goiters. Table 4, No. 4, is also worthy of note as concerns the last substance used. This extract, eight days old, gave a remarkable rise in blood-pressure each time it was injected. It is evident from Table 5, No. 7, that eight hours is sufficient time in which to produce marked change in the character of an extract.

Table 6 requires but little comment. The great effect of injecting serum in No. 2 had no effect on the subsequent action of an extract of prostate. No. 7 also shows the marked depressor action of extracts of this tissue. Atropin has no effect on the action of peptone (No. 10), but does inhibit the action of a decomposed extract in the same experiment.

The six experiments in Table 7 show, on first injection, the presence of a depressor substance in non-hyperplastic goiters (adenomas) somewhat similar in action to that of extracts of goiters with hyperplasia. That there is at least great difference in dosage is brought out in No. 4, in which experiment there was a fall of 30 mm., when an extract of hyperplastic goiter was injected after tolerance was established to extracts of adenomas. The action of extract of sarcoma after extract of goiter (No. 5) should be noted and that of extract of carcinoma of the breast after cutting both vagi (No. 2).

Of Table 8 very little is to be said regarding the three experiments in which serum from patients with simple, non-hyperplastic goiter was injected first. The second experiment in this series shows the more marked effect of serum from patients having exophthalmic goiter, also an apparent tolerance produced thereby for extract of hyperplastic goiter. The cause of death in No. 3 is unexplained.

The experiments in Table 9 add little to our knowledge, but the marked action of the extracts of exophthalmic goiter is emphasized in comparison with the control substances in the first three experiments, and No. 4 is of interest because of the action of the serum after the large drop and tolerance from extract of sarcoma.

The last large group of experiments, given in Table 10, shows the action of various control substances. Nos.

THYROIDS FROM EXOPHTHALMIC GOITER PATIENTS*

Second Substance Injected	B. P. ½ Min. Later	Drop mm. Hg	Interval, Min.	B. P. mm. Hg	Third Substance Injected	B. P. ½ Min. Later	Drop mm. Hg
Ext. hyperplast. thy., 5 c.c. (Case 68607)	93	10	..	...			
Ext. hyperplast. thy., 5 c.c. (Case 68607)	90	23	..	...			
Ext. hyperplast. thy., 6 c.c. (Case 77985)	150	10	1	150	Ext. hyperplast. thy., 3 c.c. (decomposed)	105	45
				160	Ext. hyperplast. thy., 3 c.c. (decomposed)	120	40
Ext. hyperplast. thy., 7 c.c. (Case 80439)	100	55	..	...			
1-50 grain atropin sulphate	...	..	..	87	Ext. hyperplast. thy., 5 c.c. (Case 70313)	65	22
	...	..	..	97	Ext. hyperplast. thy., 5 c.c. (Case 70313)	70	27

low that of the first injection of the same substance.

BY INJECTIONS OF SERUMS FROM EXOPHTHALMIC GOITER PATIENTS

B. P. ½ Min. ater	Drop mm. Hg	Interval, Min.	B. P. mm. Hg	Third Substance Injected	B. P. ½ Min. Later	Drop mm. Hg	Interval, Min.	B. P. mm. Hg	Fourth Substance Injected	B. P. ½ Min. Later	Drop mm. Hg	Interval, Min.
90	10	1	92	Exoph. serum, 15 c.c. (Case 71036)	85	7	2	110	Peptone, 10 per cent., 10 c.c.	35	75	8
90	..	3	100	Exoph. serum, 21 c.c. (Case 71036)	80	20	5	48	Peptone, 10 per cent., 10 c.c.	45	3	..
135	..	10	140	Ext. hyperplast. thy., 5 c.c.	90	50	..	...				
...	..	..	130	Ext. hyperplast. thy., 5 c.c.	90	40	..	...				
120	10	5	130	Peptone, 10 per cent., 5.5 c.c.	84	46	4	128	Ext. Ca. breast, 5.5 c.c. (Case 80779)	108	20	
...	..	..	138	Peptone, 10 per cent., 5.5 c.c.	116	22	4	128	Ext. Ca. breast, 5.5 c.c. (Case 80779)	128		

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[10] Blackford, J. M., and Sanford, A. H.: Med. Rec., 1913.

7, 8, 9 and 10 have been grouped together because extracts of thyroids from dogs were injected. The results were not constant, however. Peptone was the only substance used in No. 11. Tolerance was established to the first dose. When three times this amount was administered there was a large drop, with tolerance to another injection of the same quantity. The strange preliminary rise of the blood-pressure, followed by a fall, caused by extracts of spleen, occurred in only the three experiments, Nos. 15, 16 and 17.

While a study of the individual experiments shows many exceptions, our general findings are stated in the summary.

SUMMARY

1. Extracts of exophthalmic goiters cause a very marked fall in the blood-pressure of the dog, with

TABLE 5.—INJECTIONS OF SERUMS FROM EXOPHTHALMIC GOITER

Dog No		Date	Wt. Kg.	B P. mm. Hg	First Substance Injected	B P. ½ Min Later	Drop mm. Hg	Interval, Min	B. P. mm. Hg	Second Substance Injected
Serial	Kennel									
1	259	6/19/12	9 8	110	Exoph serum, 31 c c (Case 69198)	75	35	5	120	Ext. hyperplast. thy., 5 c c.
				130	Exoph serum, 31 c c (Case 69198)	120	10	2	115	Ext. hyperplas. thy., 10 c.c.
2	361	11/ 1/12	7 0	129	Exoph serum, 8 c c (Case 75496)	95	34	5	150	Ext. hyperplast. thy, 3 5 c c. (Case 69368)
									120	Ext. hyperplast. thy, 10 5 c c. (Case 69368)
3	381	12/ 3/12	7 5	160	Exoph serum, 30 c c	135	25	3	165	Ext. hyperplast. thy., 4 c c. (Case 48013)
									115	Ext. hyperplast. thy., 4 c c. (Case 48013)
4	342	9/21/12	5 5	164	Exoph serum, 4 c c (Case 73529)	145	21	7	132	Exoph. serum, 4 c c. (Case 73551)
				138	Exoph serum, 4 c c. (Case 73529)	128	10	2	...	
5	270	7/ 9/12	7 2	150	Exoph serum, 25 c c (Case 70119)	135	15	3	150	Ext hyperplast thy., 3 5 c c.
				150	Exoph serum, 25 c c (Case 70119)	135	15	1	140	Ext. hyperplast. thy, 12 c.c.
6	326	9/13/12	10 0	140	Exoph serum, 21 c c	130	10	2	140	Ext. hyperplast. thy. (Case 68830)
7	338	9/18/12	7 3	120	Exoph serum, 21 c c (Case 73673)	125	..	5	155	Ext. hyperplast. thy., 3 5 c c. (8 hours old)
						.	..	..	130	Ext. hyperplast. thy. 3 5 c c. (8 hours old)
8	284	7/12/12	7 0	80	Exoph serum, 45 c.c (Case 71431)	75	5	2	85	Ext. hyperplast. thy, 5 c c. (heated) (Case 70927)
						..	* ..	..	85	Ext. hyperplast. thy, 5 c c. (heated) (Case 70927)
9	311	9/ 4/12	7 6	115	Exoph serum, 30 c c	113	2	1	100	Ext. hyperplast. thy., 7 c c. (heated) (Case 58086)
				118	Exoph serum, 30 c c	117	1	5	100	Ext. hyperplast. thy., 12 c c. (heated) (Case 58086)
10	385	12/11/12	12 0	150	Exoph serum, 50 c c (Case 76590)	150	..	1	150	Ext hyperplast thy., 6 c c. (Case 76597). After 1-50 grain atropin
						. .	..	..	130	Ext. hyperplast thy., 12 c c. (Case 76797). After 1-50 grain atropin

* 24 mm rise † 35 mm rise

TABLE 6.—INJECTIONS OF SERUMS FROM EXOPHTHALMIC GOITER

Dog No		Date	Wt Kg	B P mm Hg	First Substance Injected	B P. ½ Min Later	Drop mm. Hg	Interval, Min	B. P. mm. Hg	Second Substance Injected
Serial	Kennel									
1	236	5/14/12	12 7	160	Exoph serum, 10 c c	110	20	5	160	Fluid cystic adn, 5 c c. (Case 67217)
2	249	5/20/12	9 55	135	Exoph. serum, 30 c.c. (Case 67993)	60	75	26	130	Ext. prostate, 5 c c. (Case 67221)
				140	Exoph serum, 16 c.c. (Case 67993)	105	35	13	...	
3	253	6/ 9/12	12 5	145	Exoph. serum, 23 c c. (Case 68883)	115	30	3	135	Exoph serum, 20 c c. (Case 68720)
				135	Exoph serum, 23 c.c. (Case 68883)	125	10	3	...	
4	264	6/25/12	5 8	110	Exoph serum, 35 c c	40	70	12	105	Ext. mult. adn, 3 c c
						..	..	..	105	Ext. mult. adn, 5 5 c c.
5	260	6/21/12	8 2	145	Exoph serum, 21 c c. (Case 69368)	135	10	1	145	Exoph. serum, 21 c c. (Case 69364)
				145	Exoph serum, 21 c c. (Case 69368)	135	10	10	...	
6	271	7/ 2/12	9 0	135	Exoph. serum, 12 5 c.c.	125	10	1	135	Ext. toxic adn. serum, 12 c c. (Case 69732)
				130	Exoph. serum, 12 5 c c	125	5	5	...	
7	237	5/ 1/12	15 0	120	Exoph serum, 40 c.c. (Case 67250)	135	..	5	130	Ext prostate, 6 c c. (Case 66158)
8	289	8/19/12	5 0	105	Exoph serum, 18 c.c. (Case 71129)	110	..	3	95	Peptone, 10 per cent, 5 c c.
				110	Exoph serum, 18 c.c (Case 71129)	100	10	2	110	Peptone, 10 per cent, 5 c c.
9	479	2/21/13	5.0	100	Exoph. serum (Case 80049)	90	10	30	120	Ext. Ca. breast, 5 c.c.
						..	..	..	120	Ext Ca. breast, 5 c.c
10	484	2/28/13	7.0	140	Exoph. serum, 20 c.c (Case 80560)	110	30	5	...	1-50 grain atropin, Rt. vagus blocked

splanchnic dilatation and slowing of the pulse. The first injection produces tolerance toward subsequent injections. Atropin does not affect the action.

2. The serum of patients at the height of intoxication from acute exophthalmic goiter causes a marked fall in blood-pressure; tolerance is produced.

3. The only subtsances we have used that produce comparable drops in blood-pressure with tolerance are Witte's peptone (10 per cent. solution) and extracts of sarcoma and hypertrophied prostates.

4. Brain extracts and extracts of decomposing tissue containing cholin produce very different drops in that there is no tolerance produced, and atropin inhibits their action.

5. The tolerance produced to extracts of sarcoma and prostate or peptone solutions does not protect the ani-

PATIENTS FOLLOWED BY INJECTIONS OF EXTRACTS OF HYPERPLASTIC THYROIDS

B. P. ½ Min. Later	Drop mm. Hg	Interval, Min.	B. P. mm. Hg	Third Substance Injected	B. P. ½ Min. Later	Drop mm. Hg	Interval, Min.	B. P. mm. Hg	Fourth Substance Injected	B. P. ½ Min. Later	Drop mm. H
115	5	3	115	Ext. hyperplast. thy., 5 c.c. (decomposed)	70	45	3	...			
110	5	4	100	Ext. hyperplast. thy., 5 c.c. (decomposed)	70	30	..	...			
140	10	13	...								
98	22	..	...								
100	65	2	140	Peptone, 10 per cent., 3 c.c.	100	40	3	...			
132	13	8	130	Peptone, 10 per cent., 3 c.c.	115	15	..	...			
126	6	2	130	Ext. hyperplast. thy., 3 c.c. (Case 69776)	120	10	..	128	Ext. hyperplast. thy., 3 c.c. (8 days old)	152	*
...	..	..	122	Ext. hyperplast. thy., 3 c.c. (Case 69776)	128	..	1	155	Ext. hyperplast. thy., 3 c.c. (8 days old)	190	†
135	15	4	...								
130	10	..	...								
60	80	..	...	Dog died							
100	55	2	120	Ext. hyperplast. thy., 9 c.c. (8 hours old)	75	45	..	...			
100	30	2	135	Ext. hyperplast. thy., 7 c.c. (8 hours old)	85	50	..	...			
85	..	2	85	Ext. hyperplast. thy., 5 c.c. (heated) (Case 71425)	85	..	..	85	Peptone, 10 per cent., 10 c.c.	35	50
85	..	1	85	Ext. hyperplast. thy., 5 c.c. (heated) (Case 71425)	85	..	..	62	Peptone, 10 per cent., 10 c.c.	45	17
85	15	2	105	Ext. hyperplast. thy., 5 c.c. (decomposed)	80	25	2	...			
100	..	2	105	Ext. hyperplast. thy., 5 c.c. (decomposed)	75	30	..	...			
108	42	..	...								
72	58	..	...								

PATIENTS FOLLOWED BY INJECTIONS OF VARIOUS CONTROL SUBSTANCES

B. P. ½ Min. Later	Drop mm. H	Interval, Min.	B. P. mm. Hg	Third Substance Injected	B. P. ½ Min. Later	Drop mm. Hg	Interval, Min.	B. P. mm. Hg	Fourth Substance Injected	B. P. ½ Min. Later	Drop mm. Hg
150	10	12	140	Ext. adn., 4 c.c. (Case 32031)	140	..	..	...			
70	60	14	120	Ext. mult. adn., 12 c.c.	90	30	..	...			
...	..	..	120	Ext. mult. adn., 12 c.c.	115	5	..	...			
135	..	3	120	Ext. coll. adn. (Case 68352)	115	5	2	110	Ext. coll. adn., 7 c.c. (Case 68572)	120	10
105	..	1	...								
100	5	..	...								
135	10	1	150	Ext. coll. adn., 7 c.c.	105	45	3	135	Ext. hyperplast. thy., 2.5 c.c. (Case 69116)	120	15
135	..	7	120	Ext. hyperplast. thy., 4.5 c.c.	115	5	..	...			
65	75	..	...								
55	40	5	105	Ext. hyperplast. thy., 2.5 c.c. heated (Case 67913)	95	10	2	...			
95	15	5	95	Ext. hyperplast. thy., 2.5 c.c. heated (Case 67913)	105	..	..	...			
105	15	1	...								
120	..	..	...								
...	..	2	140	Peptone, 10 per cent., 3 c.c.	70	70	3	150	Ext. hyperplast. thy., 3 c.c. (two days old)	146	4
...	..	..	142	Peptone, 10 per cent., 3 c.c.	136	6	5	...			

mal from the typical action of the extracts of exophthalmic goiter.

6. The tolerance of the serum of exophthalmic goiter apparently protects the animal against the action of the extracts of exophthalmic goiter.

CONCLUSION

There is a powerful depressor substance in saline extracts of exophthalmic goiters, and apparently the same substance is present in the blood of individuals suffering acutely from this disease.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. WILSON, SMITH, SANFORD AND BLACKFORD

Dr. E. T. Bell, Minneapolis: I should like to ask Dr. Wilson to explain his grouping of the toxic cases.

Dr. A. W. Hewlett, Ann Arbor, Mich.: Was the fall in blood-pressure from exophthalmic serum prevented by a previous injection of exophthalmic extract?

Dr. A. H. Sanford, Rochester, Minn.: Apparently tolerance to the depressor substance in an extract of exophthalmic goiter would prevent the fall in blood-pressure from a potent serum of an exophthalmic goiter patient. I use the word "potent" because only in the acute stage of intoxication is a depressor substance obtained. We have used altogether about twenty-six serums and about forty-nine extracts. Some of these serums were from patients with simple goiter. These serums contained no potent depressor substance. We also used serums from normal persons and from the horse. We found no drops in normal serums.

Dr. A. W. Hewlett, Ann Arbor, Mich.: We have injected the serums from patients with high blood-pressure into dogs and rabbits and in these cases there was a striking fall in blood-pressure. We were under the impression that this fall might occur after injections of normal serums.

Dr. L. B. Wilson, Rochester, Minn.: The grouping into toxic non-exophthalmic and into toxic exophthalmic cases is purely clinical. It is found that the exophthalmic toxic cases invariably show hypertrophy and hyperplasia, while the non-exophthalmic cases do not show these symptoms.

Dr. A. H. Sanford, Rochester, Minn.: There was a fall in blood-pressure even after both vagi were cut. Furthermore, Gley and Cleret in their series stated that there is inhibition of vagus action after the injection of the serums and goiter extracts. We could not demonstrate this. By the use of the intestinal plethysmograph we were able to demonstrate that a marked splanchnic dilatation occurred coincident with this fall in blood-pressure. We injected these serums as we obtained them from patients without noting their histories. Sometimes we obtained marked fall in blood-pressure and at other times nothing at all. We did not know beforehand what our results would be. In reviewing the case histories it was found that the serums in which we had a marked fall in blood-pressure were from those patients who had acute intoxication from exophthalmic goiter and that those from which no effect was obtained were from the chronic cases. It appeared to us quite significant as to the amount of depressor substance present in the blood of these patients at that particular time.

Rural Sanitation.—In many states the large cities are the only points which have any real sanitary protection. Our rural population of 49,000,000 people, including the 30,000,000 who live on farms, with the exception of those fortunate rural dwellers in one or two exceptional states which regard the health of the country people as also important, receive very little state health protection and maintain no local protective system of their own against contaminated local milk, meat, shell-fish, fish or vegetables. Moreover, only a small number of these rural inhabitants are safeguarded, by competent inspection, against polluted water-supply or sewage-disposal methods dangerous to health and life.—*Carl L. Alsberg, Am. Jour. Pub. Health.*

FIELD-WORK IN TUBERCULOSIS *

MARY E. LAPHAM, M.D.
HIGHLANDS, N. C.

It is small comfort to a man dying of tuberculosis to be told that, if the disease had been discovered in time and properly treated, his life might have been saved. It is more than doubtful if the frequency of this failure to discover the disease in time is adequately appreciated outside a sanatorium. There we learn with appalling emphasis the lesson taught by experience that death in tuberculosis is not entirely due to an infection by tubercle bacilli, but equally, and possibly more than equally, due to failure to detect the beginnings of pathologic processes. The fault is not altogether in the inability or the neglect of physicians, because only too often the patient is all unconscious of the danger and does not seek help. It is to emphasize the importance of educating the people to a sense of this danger that this paper is written.

These cases of delayed diagnosis in which the patients do not seek a doctor until it is too late are due to lack of manifestations, so that the patient is not aroused in any way to the fact that there is any trouble in his lungs. He does not cough, has no fever, feels well, looks well and does his day's work with ease. We have at the Highlands Camp Sanatorium under our care patients who, up to the very time that they finally felt ill enough to call in a doctor, were feeling as well and working as well as they ever had. How shall we teach our people to realize that apparently good health is no guarantee against tuberculosis and that good working capacity is perfectly compatible with bad lungs? How can we make them appreciate the dangers of tuberculosis among apparently well people and the desirability of guarding against its spread and development by periodic examinations? How can we explain the long years of preparation and teach them that the victims discovered to-day have been years in the making, and that, therefore, the time to attack tuberculosis is not at the end, when it is perforce discovered, but during those long years of slow development when the crops were growing?

The recent work done in the South against the hookworm with such splendid results suggests the desirability of employing just such tactics against tuberculosis. In the South our people did not know why they could not work or that they had hookworms or that they could be cured. They had no hope of help and rarely sought it. By going out into the field and searching out these cases and teaching the people and the physicians on the spot an incredible amount of working capacity has been acquired for the South and this saving will steadily increase while the expenses of the campaign will lessen and cease. In the ordinary course of events how long would it have taken for this knowledge to filter down through to physicians and patients?

If another Rockefeller would establish a fund for field-work in tuberculosis so that we could plan the campaign along the same lines as that against the hookworm and put a tuberculosis expert in charge of each district, what should we hope to accomplish? First, we should want to educate the people so that they would understand the problems connected with the prevention of the disease; and, second, we should make a thorough canvass in order to learn how many cases of unsuspected latent tuberculosis were insidiously preparing to become manifest.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

The district physicians will make a thorough search for suspicious cases and bring them for examination on the appointed day by the expert. This will teach the profession the most reliable and newest methods of examination and enable them to learn to detect the presence of a tuberculous process long before there are any manifestations. The expert will insist on the examination of apparently well children because he knows that it is precisely among these seemingly well children that concealed tuberculosis is found, and that if these cases are put under proper treatment many an adult will be saved. The expert will teach his physicians the necessity for distinguishing between an infection by tubercle bacilli and tuberculosis, because whereas over 90 per cent. of our children are infected by tubercle bacilli by the time they reach maturity, only a very small percentage manifest the disease and it is therefore evident that not all these infections develop into a tuberculous process. We can detect the unsuspected presence of tubercle bacilli by a tuberculin test, but this may be simply a biologic and not a pathologic reaction. The ability to react to tuberculin increases with each year of life from birth to maturity, so that we as constantly find an increase in the number of infections by tubercle bacilli, but this does not mean that the manifest cases of tuberculosis increase in the same proportion.

From birth to maturity there is an ever-increasing disproportion between the percentage of tuberculin reactions, the manifested cases of tuberculosis and the death-rate. We cannot tell by a tuberculin test whether or not a new-born babe has a tuberculosis infection because the ability to respond to tuberculin is still undeveloped.

With every year of life we find an increase in the number of children responding to tuberculin and we have argued from this increase a corresponding increase in the number of infections. This inference may be wrong in some cases because instead of a new infection we may have simply a newly developed ability to respond. Every day the study of the newly born and of the prematurely born is showing with ever-increasing frequency the presence of acid-fast bacilli or their prebacillary forms known as Much's granules in the blood and tissues when there was absolutely nothing to suggest their presence. The latency of the infections is so great that we are beginning to believe that they are as universal and as harmless as those by colon bacilli.

It is possible that the story of tuberculosis begins at birth and that the growing organism has to decide at the very start the question of its relations with this infection. If it is able to assert a phylogenetic ability to retain acid-fast infections in a state of harmless residence, as we all do colon bacilli, then tubercle bacilli are not dangerous to that individual. If there is a flaw in this mechanism, if the adaptation is not complete, the manifestation of this flaw will depend on an infinitude of factors. If the failure is conspicuous, the newly born will manifest it and die. One per cent. of all our children manifest this failure during the first year of life and die, not because they have been exposed, but because they have failed to adapt themselves. These failures inevitably die because they have never established the ability to live and the proportion between the number of manifest cases and the deaths is 100 per cent. The proportion of the death-rate to the total number of children is 1 per cent., and the percentage of infections is the same. Even in the second year of life discrepancy appears between the percentage of tuberculin reactions, the manifest cases and the death-rate, because no distinction is made between the tuberculin reactions and the manifest cases.

We argue from the increased number of reactions an increase in the number of infections and because the death-rate does not correspondingly increase it falls in proportion. If we should carefully distinguish between these tuberculin reactions and the evident manifest cases we might find that the death-rate was the same for these as in the first year of life and that the discrepancy was solely due to an increased ability to respond to tuberculin. That this is true is supported by the fact that acid-fast bacilli and Much's granules are found in infants that do not respond to tuberculin until later. With each year this discrepancy becomes greater until at maturity we find over 90 per cent. of tuberculin reactions and a death-rate of only 2 per cent. These figures will not reveal their true significance until a careful estimate is made of the distinction between manifest cases and biologic reactions. It may be that we shall find the actual death-rate higher at maturity than at any other period of childhood because of the ever-developing slowly manifested inability to live in safety with tubercle bacilli. It may be that the child that dies at 14 does not die because of a new infection but because the disparity between the danger from the infection and the ability to resist it increases. If this proves true, the tuberculosis work in the future must be directed toward detecting the children threatened with this failure and endeavoring to correct it. Prophylaxis will consist in preventing the development of this flaw and never allowing it to go on to the tuberculosis of adults.

To be able to distinguish between pathologic and biologic reactions our experts will need a well-equipped laboratory and Roentgen apparatus. This will mean great diagnostic skill and a great deal of work with consequent need of assistance. This will give our recent graduates a splendid opportunity to learn the most difficult task of distinguishing between a simple presence of tubercle bacilli and their assumption of pathogenic qualities. The keeping of these records and their comparison with the subsequent histories will teach us more concerning the relationship of these childhood infections with the tuberculosis of adults than we could possibly learn in any other way. We know that primary infection of the adult is impossible, but we do not know the history of these years between the primary infection and its final manifestation. By periodic examinations of our patients we can reveal these connections and study the effect of saving the child on the future death-rate from tuberculosis. This great effort cannot be forced on the people by the profession and they must therefore be taught to demand it, and to see that their future safety depends on it. The expense seems prohibitive, but we may come to realize that the money has to be spent anyway, and that it is only a question of when and how—whether we shall build and maintain sanatoriums for manifest cases and be utterly unequal to the problem of caring for them all, or whether preventoriums will not save years of wasted educational and living expenses lost at the very time the expense was to be justified.

The campaign of education will be greatly furthered by the stimulus to the comprehension of the people from the practical work carried on among them. Explanatory of these results, they will understand pathologic sections of lungs made during all stages of the disease, from the tissues swarming with the bacilli and yet not in the least injured, to the rotten lungs reeking with corruption.

Lectures illustrating the slow development of these processes in apparently well people and their compatibility with good health and working capacity will stimulate a desire for protection against this danger so subtle that it cannot possibly be appreciated. Above all else, the length of time should be emphasized, because there is a strong belief that an infection by tubercle bacilli resembles other infections, such as typhoid, and that recovery is, therefore, comparable to that from typhoid. If the people could be made to understand the nature of recovery in tuberculosis there would be fewer deaths from idiotic impatience. In our schools the teachers and pupils can be easily taught the whole story of tuberculosis as soon as the knowledge is sufficiently diffused to furnish us with teachers. How else can this be done as quickly as by field-work done just as it was against the hookworm?

We guard our schoolchildren from infection in every way we can, but there are two sources of infection that do not sufficiently attract our attention. One source is in the unsuspected carriers of tubercle bacilli that during a lifetime cough a little, or have "winter colds" or "chronic bronchitis," but whose general health and appearance do not suggest tuberculosis. One man complacently told me when he brought his wife that he had lost two wives from tuberculosis and probably he would lose this one, which he did. This man was the unsuspected carrier of tubercle bacilli. A few months ago the mother of one of my patients died at 68 and tubercle bacilli were found just shortly before her death, but not until after two of her children had died from tuberculosis. We distinguish between the danger from cases with tubercle bacilli in the sputum and those without. In many cases the prebacillary forms of Much's granules are present when the adult bacilli are not and their virulence is equally great, if not greater, so that the distinction between an open and a closed case must be changed to sputum containing no Much's granules and not capable of causing tuberculosis in a guinea-pig by inoculation.

Prophylaxis in the future must consist in preventing the development of a universal infection common to all mankind. which can in no way be avoided and only restrained. The direct transmission from case to case is entirely inadequate to account for this universal infection and we must seek some other explanation. We know that throughout the grasses and among trees and with the lower cold-blooded animals such as snakes, fish, turtles and lizards, and with the higher animals, such as birds, poultry, cats, dogs, sheep, pigs and cows, each class has its own peculiar kind of acid-fast bacilli capable of producing tubercles and manifesting their genetic relationship to each other by tuberculin reactions. That these tubercle-producing acid-fast bacilli are universally present throughout Nature and that they all belong to the same family is unquestioned, and that changes in type can be induced by changes in the host is indisputably proved.

Starting with these undoubted facts, it may be eventually proved that the universal infection of the human race by acid-fast bacilli is comparable with its universal infection by colon bacilli and that the danger essentially consists in the assumption of pathogenic qualities. As a rule the human race has acquired the ability to restrain this assumption, but occasionally in a very small percentage of cases this ability cannot be established and tuberculosis results. The detection of this change at the earliest possible moment and its conversion into safety is the fundamental basis of our future efforts against the spread of tuberculosis. Periodic examinations of our schoolchildren would do much to reduce the tuberculosis of adults.

Highlands Camp Sanatorium.

ABSTRACT OF DISCUSSION

Dr. Rosina Wistein, Chicago: I do not agree with Dr. Lapham that the education of the public must come from the laity, and not from the medical profession. The laity are ignorant of the dangers that are confronting them; and I believe that it is the duty of the medical profession to teach others, and only in proportion as we are interested can we hope to interest others. I find the greatest indifference and carelessness not on the part of the laymen, but on the part of the medical practitioner.

Severance Burrage, Ph.D., Indianapolis: I have met all kinds of people in this antituberculosis work, and I wish to corroborate what has been said in regard to the inactivity and careless attitude of physicians in general. In Indiana we are organizing the whole state in an antituberculosis campaign. We are organizing a local society in each county to carry on a campaign of education and disease prevention in that county. We find that the women are the best workers in most of these organizations, and that the physicians are really the hardest ones to induce to do active work. Some of them seem to feel that if they take an active part in a campaign for a local hospital — tuberculosis hospital — it will give the appearance of local advertisements or create certain jealousies among the physicians that will be undesirable, and will be looked on, possibly, as unethical or outside the pale of the physician's etiquette. For that reason we have found it difficult in many cases to enlist the active interest of physicians in the antituberculosis work. Some of the best workers are schoolteachers. They have a great deal of teaching to do, anyway; and just as schoolteachers are oftentimes enlisted in the Sunday-school work and in other kinds of teaching, they are also enlisted in this work. It does not seem right to me; I think that in a community in which facts in regard to disease—causes of disease and disease prevention—are concerned that the physicians should be the leaders in this educational campaign. They are the ones to whom the public should look for accurate information on these subjects; and yet, as I have stated,.we find in the majority of cases that active workers among the physicians are hard to find.

Dr. C. C. Browning, Los Angeles: I believe that the plan of fieldwork which the doctor has mapped out is worthy of more than passing notice. On account of my connection with the state tuberculosis commission of California, I have had occasion within the last two years to consider this subject somewhat carefully. We have adopted in our report a scheme founded on the campaign against the hookworm in the South. Our recommendation is the division of the state into sanitary districts, each of which is to be presided over by a dispensary physician, aided by a corps of nurses, for the express purpose of the detection of tuberculous patients. I believe that this plan promises the greatest amount of good in the future for the amount of money expended.

Dr. W. A. Evans, Chicago: There is, I think, a general consensus of opinion that tuberculosis in the cities is on the decline. Among the older cities—cities along the Atlantic seaboard—and the cities of continental Europe, the decline is about 50 per cent. in round figures. In our section of the country—in the Middle West—the decline is about 25 per cent. Our campaigns were not inaugurated so early as were the campaigns to the east of us, and probably they have not been so effectively conducted. It seems to me that the teaching of these experiences is quite conclusive that in communities that have undertaken this work thoroughly results follow, and that we are justified in concluding that tuberculosis will respond to efforts at its control. There are probably some states in which there is a decline in tuberculosis outside of the cities; but in the main, I think, the statement is true that there is—aside from the increasing amount of discovered tuberculosis—an actually increasing amount of tuberculosis in the rural districts.

The work for the control of tuberculosis in the rural districts is not so well developed as in the cities. I know of the plans that are being pursued in various cities in the vicinity of Chicago. It has seemed to me that the best of those plans was that in operation in Wisconsin. In Illinois the women's clubs are conducting a tuberculosis survey—a survey the results of which will be inaccurate, but which, nevertheless, will serve to concentrate the attention of the women on the tuberculosis problem in their respective communities. We are employing visiting nurses, under the auspices of the state tuberculosis society. A nurse investigates conditions in one county, and the idea is that when she leaves and moves over to another county there will be left behind in that county one or more local county nurses maintained by philanthropy. So far as I know, this idea has been better worked out in Wisconsin than in any other state in the Union, certainly better than in any other state in our part of the country.

Dr. Gertrude Felker, Dayton, Ohio: Four years ago the House of Delegates gave to the women physicians of the American Medical Association the task of forwarding the education of the people. This committee is now known as the Committee for Public Health Education Among Women. The effort has been to find some physician in every state who would be interested in education; and through that physician as state officer to find some one in each county who would talk public health education and have in each county society a public health education committee appointed. We have asked that a woman be put on that committee in counties in which creditable work is being done by women physicians. After four years' work almost five hundred counties have appointed committees.

Dr. Mary E. Lapham, Highland, N. C.: The purpose of my paper was to urge the appointing of an expert from the medical profession to teach the people the earliest suggestions of tuberculosis. The education of the people shoud come from the profession. The earliest recognition of tuberculosis must come from the people in order that the profession may have the earliest opportunity to confirm it. It is because the people do not understand the situation that the general practitioner does not have the opportunity to make a sufficiently early diagnosis.

THE HISTOPATHOLOGIC LOAN COLLECTION AND RELIEVING THE CURRICULUM *

H. S. STEENSLAND, M.D.
AND
H. G. WEISKOTTEN, M.D.
SYRACUSE, N. Y.

It was pointed out by Bardeen[1] that it is essential to have *good* histologic preparations if the student of normal histology is to see the details of structure as they exist in the tissues. Otherwise he is likely to make mistakes and to draw wrong conclusions from what he sees, and perhaps eventually to fabricate from grosser features of a histologic preparation the finer details that it does not present. This is just as true in the case of pathologic histology. A common method of handling routine teaching material is to give the student sections which he is expected to stain and mount for himself. Another practice is to distribute stained sections for the student to mount. Frequently it results that the preparations are not satisfactory and that much of the time and energy of the student is wasted in puzzling over them. For this reason it would appear to be wise to make extensive use of loan preparations.

The amount of time that can be given each year by members of the teaching staff to the preparation of histologic teaching material is limited. If this time is given to the making of a limited number of permanent loan preparations of high quality covering a limited field, there will accumulate eventually a loan collection of high grade covering a large field. Then there will be histopathologic loan collections comparable to the Minot embryologic collection at Harvard and the Mall embryologic collection at Johns Hopkins. Also the student will have for study carefully selected material, well fixed, cut into thin sections, and carefully stained and mounted. The time that the student formerly gave to the routine of staining and mounting sections he can give to actual study of the preparations.

It may be objected that the student should have the technical experience involved in staining and mounting; but with the gain in time he can be given a short but more varied training in technic in place of the oft-repeated routine. The ownership by the student of a collection of sections is a doubtful advantage as compared with the length of time that he spends in staining and mounting. The sections probably are rarely referred to after the course is completed. The mere collecting of the specimens is apt to be uppermost in the student's mind in place of the more important careful study of the material. It is not necessary to have one preparation of each kind for each student. One preparation for each pair or larger group of students is sufficient. The selection of material for permanent preparations for teaching purposes and the preparation of this material up to the point of orienting the blocks of tissue should have expended on it the greatest skill that the staff affords.

A modern course in pathology requires the use of a larger amount of experimental histologic material than was used ten or fifteen years ago. It is necessary to use to a larger extent tissues affected by means of known injurious agents under accurately known conditions. The amount of time required for the preparation of such material is very large, and the amount of material yielded by each experiment is frequently small. It is therefore obviously impossible to duplicate such material as frequently as would be required for giving each student a specimen as his personal property.

At Syracuse a loan collection as above set forth was begun by one of us (Steensland) ten years ago. A large gift from Dr. Mallory of imbedded specimens selected from his Harvard teaching material formed the nucleus of the collection and constituted a model and ideal of quality toward which to strive. As a result of the use of special care in the technic to prevent fading of the stains the oldest material is to-day apparently as good as when first prepared. Additions can be made to the collection as advances in the knowledge of diseased tissues require, and antiquated material can be replaced by new material. Each year special selection from the collection may be made for use by the students according to the trend in special directions which is given to the course in that particular year.

Pearce[2] and Gay[3] have pointed out the great advantage of correlating the work in experimental pathology and pathologic physiology with the work in pathologic histology. With a given number of scheduled hours the possibility of gain in time resulting from the use of a loan collection has an important bearing here. This gain in time for the student and the teaching staff will permit of the introduction of more work in experimental pathology and pathologic physiology into the usual course in pathology. The amount of such work that can be done by students in any particular department will depend on the size of the staff, the equipment, the possibilities of cooperation with other departments, the proximity of hospitals, the nature of the departmental divisions in the school involved, and other considerations. Any relief from routine, such as the use of the loan collection will afford, as pointed out above, will allow the members of the staff to give more of their best thought to improving and extending the teaching. The use of the loan collection offers a method of relieving the curriculum. It aids in providing time for the experimental and physiologic aspects of pathology, which are essential to the proper training of men who are to devote their lives to so large an extent to the study of the physiology of disease.

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* From the Department of Pathology, Syracuse University, College of Medicine.

[1] Bardeen, C. R.: Report of the Subcommittee on Anatomy to the Council on Medical Education of the American Medical Association, April, 1909, Anat. Rec., 1909, iii, 415.

[2] Pearce, Richard M.: The Teaching of Experimental Pathology and Pathological Physiology to Large Classes, Bull. Johns Hopkins Hosp., 1911, xxii, 404.

[3] Gay, Frederick P.: A Method of Correlated Teaching of Pathology and Bacteriology in the Second Year of Medical Instruction, Bull. Johns Hopkins Hosp., 1912, xxiii, 170.

309 Orange Street.

LONGITUDINAL FRACTURES OF THE TIBIA BY TORSION

WITH REPORT OF A CASE

R. W. McNEALY, M.D.
Instructor in Senior Surgery, University of Illinois, College of Medicine
CHICAGO

Longitudinal fractures of the tibia usually result from indirect violence as in jumping or falling from a height, and in these cases a T- or Y-shaped fracture is usually produced in which one or both tuberosities are separated from the shaft and the joint cavity involved. In fractures of this type due to direct violence it is more common to have a comminuted fracture, often compound.

Fractures from torsion or twisting occur most frequently in the humerus or femur or in the shaft of the tibia near the middle. In the humerus they are usually spiral and result from extreme passive torsion as in wrestling or in throwing a ball. We see this variety again in the fracture, or rather the epiphyseal separation, seen in small children as the result of being supported by the hand after stumbling and falling with body rotation. In the femur and tibia they usually result from a fixation of the foot with rotation of the body, which was the case in my patient.

REPORT OF CASE

History.—Mr. B., aged 42, an extremely muscular man weighing 238 pounds, has always been in perfect health and for the past sixteen years has been engaged as fireman in the Chicago City Fire Department. He is an unusually active man for his weight. On April 24, 1913, he attempted to board a moving street-car as it was rounding a corner. Owing to the fact that another passenger wishing to alight was standing on the platform, he was able only to get his right foot on the step and to catch the rear handle of the entrance. His foot being firmly anchored on the rubber-covered step, which prevented its slipping, he was able to stand aright, but the momentum of the car swinging out around the corner caused him to twist suddenly and his body to swing around to the rear of the car while he still maintained his grasp on the handle of the car and his foot-space on the step. He did not lose his footing or fall at any time, but felt something crack in his leg and experienced severe pain when he regained his balance and walked into the car. The pain increased rapidly and he had to be carried from the car.

Examination.—The patient is unable to bear his weight on the leg but does not believe it broken, as he was able at first to walk. The signs of local trauma in the way of discolorations or ecchymoses are lacking. There is some swelling about the knee-joint. Crepitus can be elicited easily on passive motion. There is no marked deformity, the leg being in perfect alignment. Increased lateral mobility is present. Measurements as to length are normal. Tuberosities of the tibia are quite markedly increased in width. Roentgenoscopy shows a rather unique fracture of the upper portion of the tibia. There are apparently three distinct lines of longitudinal cleavage extending from the interarticular space of the superior articular surface in a right-twisting spiral to well past the middle of the tibia. A V-shaped fragment is left between the articular surfaces, probably the result of the firm attachment of the crucial ligaments to the spines.

Treatment.—Temporary lateral splints and ice-bags were applied to the knee until the following day, when an attempt was made to mold the knee by lateral pressure on the tuberosities of the tibia. A plaster-of-Paris cast was applied extending from the groin down to the toes. The cast was opened anteriorly and posteriorly by means of a Gigli saw as soon as dry, adhesive plaster being used as a hinge posteriorly so that the cast could be removed and passive motion and massage instituted. Passive motion and massage were begun gently on the eighth day and continued with increasing activity. The patient was able to go back to work in eleven weeks.

It is my purpose in reporting this case not alone to call attention to unusual factors in the mechanism and pathology, but also to emphasize the necessity of, and excellent results accruing from, early passive motion in fractures involving joints. The patient reported in this case is able to walk with absolutely no limp and could touch heel to buttock on the injured side after eleven weeks.

4254 Indiana Avenue.

INJECTION OF QUININ AND UREA HYDROCHLORID IN HYPERTHYROIDISM

PRELIMINARY REPORT

LEIGH F. WATSON, M.D.
OKLAHOMA CITY, OKLA.

The following cases are reported to show the immediate results on the symptoms after injecting quinin and urea hydrochlorid. The patients have all been on medical treatment for from one to two years without improvement. In Case 1 the injection was used in conjunction with ligation of both superior thyroid arteries; in Cases 2 and 3 the injection was the only treatment employed. Improvement seems to be equally prompt without the ligation; whether or not the results will be as lasting as after ligation remains to be proved.

If there is any pain following the injection of quinin and urea hydrochlorid it is very slight, and is limited to the site of injection. A moderate degree of swelling is noted after injecting, which disappears within a week.

An all-glass syringe with a slip-joint platinum needle 2 inches in length is used for the injection.

Case 1.—Mrs. S. K., married, schoolteacher, has had family trouble for the past few years. Goiter was first noticed three years ago while the patient was spending her vacation in Colorado at a high altitude. The enlargement and symptoms of hyperthyroidism have gradually increased in spite of medical treatment and rest. The patient is very nervous. Insomnia is marked. There is tremor of both hands. The pulse ranges from 130 to 160. There is considerable enlargement of the right lobe, about 3 inches in length. The left lobe and the isthmus are slightly hypertrophied.

Both superior thyroid arteries were ligated and 90 minims of a 1 per cent. quinin and urea hydrochlorid solution injected into the body of the right lobe, 60 minims into the left lobe, and the same quantity into the isthmus. The pulse was 160 at the end of the operation, in spite of nerve-block of the neck. The pulse was 150 the next morning, and 130 that evening, 112 the second morning after operation and 104 that evening. The insomnia, nervousness and tremor disappeared within forty-eight hours. The following week the pulse averaged 100, gradually becoming slower until it reached 80, at which point it now remains.

Case 2.—Miss H. S., aged 24, single, whose mother has had goiter for years, without severe symptoms of hyperthyroidism, and whose sister died of hyperthyroidism one month before, complains of nervousness, tachycardia, insomnia and a severe diarrhea of two years. The patient is losing weight. There has been amenorrhea for sixteen months. Tremor is most marked on the left side. The patient noticed goiter on the left side about two years ago, increasing in size until it now measures about 3½ inches in length. The right lobe is 3 inches long and the isthmus somewhat enlarged.

The skin at the site of the injection was infiltrated with a few drops of local anesthetic solution. Through one skin puncture over the center of the left lobe the needle was inserted and 25 minims of a 4 per cent. quinin and urea hydrochlorid solution injected at four different points into the body of the left gland. The procedure was repeated for the right lobe and the same amount injected; 30 minims were then injected into the isthmus.

The diarrhea stopped within twenty-four hours. The pulse was 90 after the injection and the general condition was improved. The patient is gaining in weight.

Case 3.—Mrs. W. D., aged 33, married, housewife; began teaching school at 16; in a few months she noticed increasing nervousness and insomnia with slight enlargement of the right lobe. Tachycardia was first noticed while the patient was teaching and attending summer school in 1897-1898, becoming steadily worse for the past two years under medical treatment and rest. The pulse varied from 120 to 160. The patient had diarrhea ten years ago, when her only child was 1 month old; this continued for two years; there has been none during the past year. There has been tremor of both hands for eight years. There has been no nausea. The appetite has always been good. There is slight exopthalmos. The average weight is 130; it was 105 at the time of the first injection: after the injection, the patient gained 10 pounds within two weeks. She complains of constant pain over both ovaries, most marked on the left side; menstruation with dysmenorrhea occurs every two or three weeks.

When the first injection was given the right lobe was about the size of a hen's egg, and the left about half as large, with a moderate hypertrophy of the isthmus. Forty minims of a 2 per cent. quinin and urea hydrochlorid solution were injected into each lobe and the isthmus. Improvement was prompt. On the day following the injection the pulse dropped to 90; for the next two weeks while the patient remained in bed the pulse was from 70 to 80, becoming slightly accelerated when she left her bed and resumed her housework. At the time of the first injection the condition of the patient was such as to preclude any form of abdominal operative procedure without jeopardizing her life. One month later she was operated on under general anesthesia with a thorough nerve-block of the operative field, left salpingo-oophorectomy, right oophorotomy and appendicectomy being performed. The cervical canal was flexed and markedly stenosed; dilatation and curettage were done. Throughout the operation the pulse was below 90. The patient was awake and talking while the abdominal wound was being closed. The pulse was 80 during the following week. After-pain in the wound was prevented by the use of quinin and urea hydrochlorid nerve-block.

At the second injection, ten days after the operation, examination showed a small, firm, circumscribed right lobe. The left lobe and the isthmus were also reduced in size. Thirty minims of a 4 per cent. quinin and urea hydrochlorid solution were injected into each lobe and the isthmus. Next day the pulse was 80, and normal on the second day, when the patient left the hospital.

611-613 Colcord Building.

Suggestion.—Suggestion enters the understanding by the back stairs, while logical persuasion knocks at the front door.—Bechterew.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

SODIUM ACID PHOSPHATE.—Sodii Phosphas Acidi.—Sodium Dihydrogen Phosphate.—Sodium Biphosphate.—Monosodium Orthophosphate.—Primary Sodium Phosphate.—Sodium acid phosphate, $NaH_2PO_4.H_2O$, is the monosodium dihydrogen salt of orthophosphoric acid, H_3PO_4, containing not less than 82 per cent. of anhydrous sodium acid phosphate.

Actions and Uses.—Sodium acid phosphate undergoes no change in the stomach. In the intestine it is converted into disodium hydrogen phosphate (secondary or neutral sodium phosphate). In large doses it produces laxative effects similar to those produced by the official disodium hydrogen phosphate (sodium phosphate U. S. P.). The neutralization of the acid phosphate is accomplished by alkali drawn from the blood. This tends to reduce the alkalinity of the system, which reduction is prevented by the excretion of acid in the urine. Sodium acid phosphate can thus be used to render the urine acid, or increase its acidity. It is used for this purpose to assist the action of hexamethylenamine which is effective only in acid urine. For this purpose sodium acid phosphate should be given long enough before the hexamethylenamine so that it may have left the stomach before the latter remedy enters it.

Dosage.—From 1 to 1.5 Gm. (15 to 20 grains) repeated frequently until the urine becomes acid. It may be administered in sweetened water like lemonade. It should not be prescribed in solution with hexamethylenamine.

Non-Proprietary Preparations:

Sodium Acid Phosphate, M. C. W.—Manufactured by Mallinckrodt Chemical Works, St. Louis, Mo.

Sodium Phosphate, Monobasic, P. W. R.—Manufactured by Powers-Weightman-Rosengarten Co., Philadelphia, Pa.

Sodium acid phosphate occurs as large, colorless, transparent crystals or a white, granular, crystalline powder; odorless and having a cooling, saline and somewhat acid taste; slightly deliquescent.

Sodium acid phosphate is very soluble in water; insoluble in alcohol, ether or chloroform.

At 100° C. (212° F.) sodium acid phosphate loses its water of hydration (13.04 per cent.); at 210° C. (410° F.) it is converted into disodium dihydrogen pyrophosphate ($Na_2H_2P_2O_7$). At still higher temperatures it is changed into a mixture of sodium metaphosphate ($NaPO_3$) and sodium trimetaphosphate ($Na_3P_3O_9$).

An aqueous solution of sodium acid phosphate (1 in 20) is acid to litmus.

An aqueous solution of sodium acid phosphate (1 in 20) yields a white, crystalline precipitate with an excess of magnesia mixture solution.

With silver nitrate solution an aqueous solution of sodium acid phosphate (1 in 20) yields a yellow precipitate which is soluble in ammonia water and in nitric acid.

If warmed with ammonium molybdate solution an aqueous solution of sodium acid phosphate (1 in 20) yields a yellow precipitate which is soluble in ammonia water.

If 1 Gm. of sodium acid phosphate be dissolved in 20 Cc. of water and the solution neutralized by ammonia water, not more than a slight turbidity should appear (limit of *calcium*, *aluminum*, etc.).

If 1 Gm. of sodium acid phosphate be dissolved in 100 Cc. of 1 per cent. hydrochloric acid, 10 Cc. of the solution should not respond to the U. S. P. time limit test *for heavy metals.*

If 0.1 Gm. of sodium acid phosphate be dissolved in 10 Cc. of 10 per cent. sulphuric acid, the solution should not respond to the modified Gutzeit's test for arsenic proposed for the U. S. P. IX.

If 0.1 Gm. of sodium acid phosphate be dissolved in 10 Cc. of 1 per cent. nitric acid and 1 Cc. of silver nitrate solution added, not more than a distinct opalescence should appear within one minute (limit of *chloride*).

If from 1 to 2 Gm. of sodium acid phosphate be dissolved in 50 Cc. of 1 per cent. hydrochloric acid and the sulphate determined in the usual way, the weight of barium sulphate found should correspond to not more than 1 per cent. of hydrated sodium sulphate ($Na_2SO_4.10H_2O$).

If from 1 to 2 Gm. of sodium acid phosphate be dried for 1 hour at 60° C. (140° F.) and the temperature be then raised to 100° C. (212° F.) and maintained there until the salt ceases to lose weight it should not lose more than 15 per cent. of the weight taken (absence of an undue amount of *water*).

If from 1 to 2 Gm. of sodium acid phosphate be weighed, dissolved in 10 Cc. of water, 10 Cc. of a cold, saturated solution of sodium chloride added, and the solution titrated with normal potassium hydroxide, using phenolphthalein as indicator, the amount of alkali consumed should correspond to not less than 82 per cent. of anhydrous sodium acid phosphate. 1 Cc. of N/1 KOH = 0.11917 Gm. of NaH_2PO_4.

If from 0.1 to 0.2 Gm. of sodium acid phosphate be weighed, dissolved in 10 Cc. of water, the solution neutralized with normal potassium hydroxide (free from chloride) using phenolphthalein as indicator, 50 Cc. of tenth-normal silver nitrate added, sufficient zinc oxide (free from chloride) added with stirring to render the mixture neutral to litmus paper, the mixture diluted to 100 Cc. with water, the mixture filtered through a dry filter, and the residual silver nitrate in 50 Cc. of the filtrate determined by titration with tenth-normal potassium sulphocyanate in the usual way, the silver nitrate consumed should correspond to at least 82 per cent. of anhydrous sodium acid phosphate. 1 Cc. of $N/10\ AgNO_3 = 0.003972$ Gm. NaH_2PO_4.

TETANUS ANTITOXIN.—(See N. N. R., 1913, p. 218.)

Slee Laboratories, Swiftwater, Pa. (The Abbott Alkaloidal Co., Chicago.)

Slee's Refined and Concentrated Tetanus Antitoxin (Globulin Solution).—Marketed in syringes containing from 1,500 to 5,000 units each.

NORMAL HORSE-SERUM.—(See N. N. R., 1913, p. 236.)

Slee Laboratories, Swiftwater, Pa. (The Abbott Alkaloidal Co., Chicago.)

Slee's Normal Horse Serum.—Marketed in vials containing 10 and 20 Cc.

AMPOULES EMETINE HYDROCHLORIDE, P. D. & Co.—This article has been accepted for inclusion with New and Nonofficial Remedies.

Each ampoule contains emetine hydrochloride 20 mg. (⅓ grain). Prepared by Parke, Davis & Co., Detroit, Mich.

Therapeutics

CONSERVATION OF ENERGY

Crile's work in the investigation of shock[1] and his theory of the power to withstand and the development of energy which he terms the "kinetic system" should be understood by every practitioner of medicine. He believes that the brain, the thyroid, the adrenals and the muscles of the body coordinate to develop what may be termed the power, the forcefulness, the power to withstand, or the reserve strength, of the system. If any one set of these organs is overworked, the body loses strength and symptoms of shock are liable to occur when any traumatic, emotional, toxic or drug cause for it exists.

The danger of "brain-fag" has long been understood. Though the brain can stand more hours of work than the muscles of the body, still when it is overworked, serious nervous disturbances may develop, or when some injury, operation or infection occurs the patient is likely to suffer shock, and the prognosis is not good, as the power to survive, or the ability to endure, the disturbance is greatly diminished. It is also being recognized that a brain is more readily overworked if the work is disagreeable or is beyond the mental capacity, or if too much or increased responsibility is placed on an individual during or just beyond the middle period of life. A middle-aged man whose brain is uneducated, if set at machine work, will probably suffer injuries from incoordination of muscle movements, or if compelled to do too much desk work, will make many mistakes. If an educated brain is suddenly overworked, the possessor is likely to have nervous breakdowns and perhaps become hysterical or neurasthenic, as such persons are overworking their thyroids and many times also their adrenals.

Shock, more or less acute, or muscle debility, more or less prolonged, from severe or repeated muscle tire, is recognized by all athletic instructors. As frequently seen by physicians, it is represented by variations of circulatory debility, with or without some cardiac dilatation, generally with lowered blood-pressure, due many times to nothing but muscular overexertion. If such patients suffer from traumatism or from acute infection, the tendency to shock is greatly increased.

Hyperactivity of nervous energy, strenuosity, so constantly seen to-day, among our best citizens, causes a varying degree of continuous hypertension, which probably means overstimulated adrenals and may result either from too much mental energy, from too much physical speed in daily life, or from a combination of the two, which we recognize when we state that a certain man is a "hustler," or is "making his mark in the world." The future of such a person is one of hypertension and long later cardiovascular-renal breakdown. This hypertension may be termed "controlled" and is probably governed by adrenal stimulation. While such a person—generally a man—is younger, and while his machinery runs smoothly, he is in perfect health and is doing his part of the world's work, but physicians recognize that if he suffers from any one of Crile's enumerated causes of shock, he is likely "to go to pieces." Such individuals often die unexpectedly from pneumonia or from the shock from injuries or surgical operations, or they break down during the active period of life from sudden loss of blood-pressure due to circulatory tire, or from cerebral disturbance due to brain-tire. These persons are using up their reserve energy and have none left for emergencies.

Another cause of the breaking of the kinetic chain is that disturbance of the thyroid which may be termed "uncontrolled hypertension" and which occurs mostly in women. This is a condition caused by social excitement and late hours, with the irritations of confusion, bright lights, late dinners, alcohol and coffee. Even if sleep is prolonged into the morning hours, energy is not thus conserved, but is constantly and progressively lost, for the recuperative hours are insufficient when compared with the hours of energy. Not only oversexual excitement, but unsatisfied sexual excitement is another disturbance of the thyroid part of this kinetic chain. One has but to note the abnormal, unphysiologic and immoral dance termed the "tango" to realize what is happening to the young people, especially to the hysterical, neurotic and socially or physically tired girl. Whether or not voluptuousness is aroused by these dances, the wear and tear on the central nervous system is enormous, probably to the disturbance not only of the thyroid but of the three other parts of the kinetic system. The results must be nervous exhaustion, exacerbation of any neurotic tendency, and in girls the development of more or less hysterical phenomena.

The effect of sorrow, grief or mental shock on the thyroid is well understood, and those who have been subjected to such depressing influences do not rally well when traumatic, surgical or infective emergencies occur.

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[1] Crile, George W.: Shock, The Journal A. M. A., Dec. 6, 1913, p. 2027.

Consequently, the prognosis of recovery from illness in such patients is less favorable.

Some practical therapeutic conclusions to draw from the foregoing are that, except in an emergency, a patient who is to undergo operation should rest for several days, as the liability to shock will be diminished. Also, it is a serious mistake to starve a patient too long or to purge too severely before an operation. Such treatment tends to interfere with normal tone, probably because the adrenals may be disturbed. Also, it is good preparatory treatment to give a patient considerable amounts of carbohydrate foods for several days before operation, as when vomiting or stomach irritability occurs after operation, such foods cannot be administered for many hours, and sometimes for several days, and there is danger of acidosis from such carbohydrate starvation.

To aid in the conservation of the kinetic system during illness sleep is absolutely necessary. If this cannot be obtained by ordinary methods of fresh air, sponging the body with hot or tepid water according to the temperature of the patient, the proper care of the bowels and the proper kind of food, hypnotics are necessary. The temperature of the patient will always be lowered if good sleep occurs, as there is more muscle-rest as well as an absence of stimulation of all parts of the organism from a wakeful brain. Quinin, salicylic acid, caffein, atropin, or any other cerebral stimulant should not be given in the afternoon or evening to a patient who needs sleep. On the other hand, a sluggish, indolent brain that does not send its normal stimulation to the different parts of the body, perhaps not even to the adrenals, should be awakened in the morning with a cup of coffee.

The depressant action of prolonged insomnia in persons who are otherwise well and the consequent lowering of the power to withstand or the forcefulness of the kinetic system in possible emergencies should be recognized. Chronic insomnia, even if the patient obtains a few hours of sleep, is very serious and should be combated by every sensible method.

Nothing causes sleeplessness, especially in the sick, more than skin irritation, an uncomfortable bed, lack of smoothness of the undercovering of the bed, or an overheated or overchilled room. All of these irritants should be corrected.

Intestinal indigestion should, if possible, be prevented, as any absorption of proteins that have not disintegrated to the final product for proper absorption may be digested outside of the intestine, that is, absorbed before they have reached the molecular construction that is non-irritant. Such substances in the blood will cause one of two things: increase of the fever with anaphylactic symptoms, or depression, especially of the adrenals. Overdistention of the intestines with gas, which causes more or less intestinal paralysis, will also probably inhibit the adrenals. At any rate, such a condition seriously interferes with splanchnic circulation, and if the blood-vessels are not properly toned by sufficient adrenal vasopressor substance they widely dilate, and the patient is in a condition of shock.

In spite of the most discriminating care of the food received by the patient, there may be gastro-intestinal indigestion and absorption of depressing products. Also the germ of infection may produce depressant substances and the end-products of ordinary metabolism may be more or less retained in the system. Therefore our aim should be to promote elimination by all the emunctories, the bowels, kidneys and skin. The greater such elimination, the less likelihood of depression of the kinetic system; but the method selected for increasing elimination must depend on the condition of the patient. A patient who is severely prostrated should certainly not be profusely sweated. A patient whose circulation is greatly depressed, that is, a rapid, weak heart with a very low blood-pressure, should not be further debilitated by profuse bowel movements. Patients whose kidneys are irritated and more or less insufficient, especially if there is edema, should not receive large amounts of water in the hope of increasing the amount of urine; good judgment as to the amount of fluid advisable should be used with each patient. Ordinarily, during illness, goodly amounts of water should be drunk. The bowels should be moved daily, perhaps more than once a day. The skin, if possible, should be kept moist with spongings when indicated. The patient whose skin is dry and hot should not be sponged with alcohol as this tends to inhibit the normal secretions of the skin. A dash of alcohol in a large amount of water for sponging is simply absurd and should be discouraged; it means nothing but an odor. If there is profuse perspiration, however, and especially if there is prostration, pure alcohol sponging should be given, as it will tend to dry up the unnecessary hypersecretion.

Another mistake is to apply the ice-cap to every patient with high fever. If there is headache or symptoms of meningitis the ice-cap is of value; but high fever alone does not indicate that an ice-cap is needed. It has not been shown that such treatment ever reduced the temperature. It may, however, seriously depress the cerebral centers, perhaps disturb the nutrition of the hair and thus cause its profuse loss after the fever has subsided.

In the conservation of energy in patients who must be ill for some weeks, the necessary elements of nutrition should not be forgotten, namely, iron, given in substance, if the patient cannot receive meat or meat-juices; sodium chlorid; some of the fruit salts as represented by oranges; starch and perhaps sugar; some protein (and raw egg albumin may not offer good protein for absorption); lime, either as represented by milk or given as one of the calcium salts, and a sufficient amount of water.

To summarize, thorough physiologic therapy is always to be given to a patient.

Spanish Medical Periodicals Menaced.—Dr. De Diego deplores the way in which commercialism has invaded the drug business and medical publications of Spain. He warns against the present tendency as indicating a danger that the drug business and the medical periodicals may be monopolized by non-professional persons. Medicine for physicians and pharmacy for pharmacists, he thinks, should be the slogan. He says that of the sixty-odd legitimate medical periodicals published in Spain and Portugal less than six show a profit. The others barely pay expenses, and if the commercial house-organs continue their efforts to drive the legitimate medical periodicals from the field, the latter will have to suspend publication. He asserts that the fate of the medical press lies with the members of the profession, who should protect the legitimate publications with enthusiasm and energy, as the true medical press is of vital importance to the medical profession. His article is quoted *in full in the Siglo Medico*, Nov. 1, 1913.

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SATURDAY, JANUARY 10, 1914

PATHOGENICITY AND VIRULENCE OF BACTERIA

It is easy to understand how bacteria whose metabolism produces demonstrable toxic substances give rise to toxic symptoms in the organism which acts as host. To this class belong such bacteria as the diphtheria and tetanus bacilli. The pathogenicity of organisms which generate no such toxic substance or exotoxin is not so easily explained. Thiele and Embleton[1] have recently published experiments which suggest that the capacity of an organism to produce disease depends on the amount of toxic protein-cleavage products which *may be formed by the action of antibodies on the bacterial protoplasm.*

These authors divide the bacteria with which we are concerned into three groups:

In Group 1 they place the organisms against which the body produces very little antibody, as a result of which the bodies of these bacteria are very slowly broken down into simpler products, and hence these organisms are practically non-pathogenic.

In Group 2 are placed the organisms against which the body produces antibodies in moderate quantities. The bacteria are acted on by the antibodies or ferments, and are split into simpler compounds. This process is so gradual that the protein-cleavage products, not being immediately broken down beyond the toxic stage, accumulate in the system, and produce toxic symptoms. This group contains most of the pathogenic organisms.

Group 3 consists of those bacteria against which the antibody activity is very high. If these organisms succeed in growing within the body the protein substances are so rapidly broken down that they are soon split beyond the toxic stage, no toxic products accumulate and no symptoms are produced. These organisms are ordinarily non-pathogenic.

Thiele and Embleton made experiments in which they caused non-pathogenic organisms belonging to Group 1 to become pathogenic by raising the antibody activity against them. This was accomplished by giving a very large injection of killed organisms to guinea-pigs, and after a period of from five to fifteen days inoculating the guinea-pigs with a small quantity of the living bacteria. Animals so treated died in two or three days of intoxication. Control animals similarly inoculated but without the previous injection of killed organisms gave no toxic symptoms. These results indicate that bacteria non-pathogenic to certain animals became pathogenic when the antibody activity against them was increased. In these cases the presence of toxic substances in the blood was shown by injecting it into the veins of normal animals. Immediate death with the characteristic symptoms and post-mortem findings of anaphylaxis resulted.

Experiments were also made on organisms of the group regarded as non-pathogenic because the antibody activity against them is high. The injection of a quantity of hypertonic saline solution decreases antibody formation, and advantage was taken of this fact by injecting the organisms to be tested with such a *saline solution within the peritoneal cavity. Death from* toxemia resulted in every case. These results are interpreted to show *that the pathogenicity of bacteria depends* on the activity of the antibodies or ferments in the system of the host. If such activity is either very slight or very high the organism is non-pathogenic. By the increasing or decreasing of the antibody activity in the respective cases these bacteria may be made pathogenic.

Thiele and Embleton note that many non-virulent organisms on being made virulent develop a capsule. This phenomenon is apparently part of the process by which the bacterium modifies its characteristics to adapt itself to its environment. The antibody activity of the host represents an unfavorable condition, to which the bacterium must either adapt itself or perish. Becoming adapted to the hostile environment spells virulence, and the capsule formation which so frequently accompanies it is explained as follows: When a ferment comes in contact with an albuminous substance which it can attack it will gradually penetrate it; if this substance is a living bacterium it is destroyed. If, however, the bacterium develops the faculty of surrounding itself with a zone of such material and of renewing it by fresh extrusion from its own cytoplasm as rapidly as it is dissolved by ferment activity, the bacterium lives on unaffected. Virulence is then frequently an induced process, associated with the production of a capsule from which the toxic protein-cleavage products can be liberated by ferments, and which furnishes at the same time a barrier against phagocytosis.

The entire work impresses on us afresh the fact that the mechanism of pathogenicity and virulence is closely connected with changed activity or allergy on the part of the host, and that by a better understanding of the one we may attain a broader comprehension of the other.

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[1] Thiele and Embleton: Proc. Royal Soc. Med., 1913, vi, 99; Ztschr. f. Immunitätsforsch. u. exper. Therap., 1913, xix, 643.

THE VARIATIONS IN THE CONTENT OF SUGAR IN THE BLOOD

Alimentary glycosuria, as exhibited in the renal excretion of sugar when undue amounts of carbohydrates are ingested by persons who fail to manifest this symptom under ordinary conditions of diet, has long been recognized and investigated. The prominence which the clinical estimation of the sugar-content of the blood has assumed in recent months, and the diagnostic importance which has been attached to the variations in this blood-constant as a possible index of incipient metabolic disorder, have seemed to call for a careful determination of the precise effect which the ingestion of carbohydrate may exert in altering the quantum of blood-sugar under well controlled conditions in otherwise healthy persons. The determination of normal values and physiologic deviations from them is always essential as the rational beginning in the establishment of a new scheme of diagnostic procedure. Such an undertaking has lately been carried out in the medical clinic of the University of Copenhagen by Dr. Jacobsen.[1] Estimations were made after comparatively brief successive intervals in the same persons who had taken various substances in suitable quantities three or four hours after breakfast. It is well known that healthy persons frequently exhibit glycosuria after the ingestion of from 150 to 200 gm. of dextrose under similar conditions — and this is usually taken as an index of alimentary glycosuria. In contrast with some earlier studies the Danish investigator has observed an unmistakable hyperglycemia in every instance after ingestion of 100 gm. of dextrose; in some instances glycosuria likewise appeared simultaneously. In view of this fact, Jacobsen points out that a mild transient glycosuria under such circumstances is no longer to be looked on as a diabetic symptom.

Comparable quantities of starch administered in the form of bread likewise led to hyperglycemia. The increase in the percentage of sugar was quite as pronounced, in some cases, as that which occurred after the introduction of glucose; but the onset of the hyperglycemia was slower, as might be expected, in view of the slower liberation of sugar by the digestive processes. Fat or protein, in contrast with glucose or starch, were without effect on the level of the sugar in the blood; but when starch was administered along with fat the degree of the alimentary hyperglycemia was relatively mild. The explanation of the inhibitory effect of the fat on the tendency to hyperglycemia is presumably to be sought either in the fact that the presence of the fat mechanically interferes with the ready digestion of starch and consequent liberation and absorption of sugar, or that fat retards the discharge of contents from the stomach and delays absorption in this way.

Effects of a similar sort were observed also in the blood of diabetics fed as indicated before. There is a tendency, however, for a greater increase in the blood-sugar content to assert itself in the abnormal than in the normal persons after an identical intake of carbohydrate; and the same increment of blood-sugar in diabetics is far more likely to lead to glycosuria. In healthy persons, for example, the content of blood-sugar may be raised to 0.16 or 0.17 per cent., without inducing an elimination of glucose. In diabetics the consequences are exaggerated in every direction. The possession of these newer data will serve to orient us better in the direction of successful diagnosis on the basis of the information to be obtained for the estimation of the sugar-content of the blood under known or controlled conditions of diet.

OVARIAN TRANSPLANTATION

In 1909 and 1911, W. E. Castle and John C. Phillips[1] reported successful experiments made by them in ovarian transplantation in guinea-pigs. They now report a third successful transplantation as corroborating their theories and give the conclusions drawn from their observations. The conservatism of their previous reports renders their deductions especially significant.

In their first successful experiment the ovaries from a black guinea-pig were transplanted into a previously castrated white one, which, during one year, produced six black-coated young like the animal from which the ovaries were obtained, and entirely different from the white mother-pig. The most careful investigation disclosed no other factor than the transplanted ovaries which could have caused the phenomenon.

In the second successful experiment the color-factors were repeated. The ovaries from a colored guinea-pig were grafted on an albino, which bore a brown-eyed cream young one to an albino mate. The characteristics of the other young born to the albino pair were exactly such as would have been produced had the colored animal been mated with the albino male.

In the third successful experiment,[2] a different factor obtained. The animals mated were alike in all genetic features. The mother guinea-pig, of an agouti hair-pattern—the upper part of the body brownish with a mixture of red and black, the belly yellowish—received the ovaries from a light cinnamon animal. The reported result shows that "the sojourn and development in the body of a brown animal of an ovary taken from a cinnamon animal does not seem to have altered in any respect the initial genetic possibilities of the germinal substance."

The conclusion arrived at is that these three cases furnish substantial evidence in favor of Weismann's theory that in the higher animals the germinal substance and the body of the animal—that is, the germ-plasm and the soma—are physiologically distinct, and that the germ-plasm is not modified through somatic influences. The familiar formula "acquired characters are not transmitted," and the theory that happenings to the individual parent which do not affect the germ-plasm will not be transmitted to the offspring, thus receive, not, indeed, absolute proof, but strong confirmation.

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[1] Jacobsen, A. T. B.: Untersuchungen über den Einfluss verschiedener Nahrungsmittel auf den Blutzucker bei normalen, zuckerkranken und graviden Personen, Biochem. Ztschr., 1913, lxvi, 471.

[1] Castle, W. E., and Phillips, John C.: A Successful Ovarian Transplantation of the Guinea-Pig and its Bearings on Problems of Genetics, Science, New Series XXX, 312; On Germinal Transplantation in Vertebrates, Publication 144, Carnegie Institution, Washington, 1911.

[2] Castle, W. E., and Phillips, John C.: Further Experiments on Ovarian Transplantation in Guinea-Pigs, Science, Nov. 28, 1913, p. 783.

All this is of interest through the present tendency toward the framing of laws in accordance with the idea that the children of criminals, alcoholics or drug-slaves probably will inherit these undesirable qualities. Such qualities may be racial or familial and not due to the influences of one generation; but they do not inevitably appear in all members of the stock. Biology seems to give definite evidence that acquired qualities are not transmitted and that the temporary custodian of the germ-plasm cannot interfere with the family strain.

Our lack of definite knowledge concerning the large problems of heredity appears to be emphasized by these conclusions. Many defects due to factors which have affected the family germ-plasm are inherited, but there is no positive evidence that all parental qualities are likely to be inherited. In connection with the Mendelian principles of heredity, the cases reported by Castle and Phillips are of much deeper significance than their biologic interest.

These experimenters declare that the method is not practical for domestic animals or man unless the tolerance of the body to foreign tissue may be increased. Out of one hundred and forty-one female guinea-pigs engrafted with foreign ovaries, but three produced young. In eleven cases the original ovarian tissue was regenerated, the young in three of these cases showing the genetic character of the mother, but none of the graft. At necropsy in eighty-seven cases no ovarian tissue was found, as the transplanted ovaries failed to persist.

The experience of Castle and Phillips indicates that without careful investigation, reports of cases of successful ovarian transplantation in the human being must be viewed with suspicion, though it is suggested that an increased tolerance of the host may be secured by an immersion of the transplant-tissue for a time in a nutrient medium or in serum from the host. As yet, however, Castle and Phillips have not tried these methods.

DEATHS OF PHYSICIANS IN 1913

During 1913 the deaths of 2,196 physicians in the United States and the Dominion of Canada were noted in THE JOURNAL. Reckoning on a conservative estimate of 150,000 physicians, this is equivalent to an annual death-rate of 14.64 per thousand. For the eleven previous years the death-rates were as follows: 1912, 14.13; 1911, 15.32; 1910, 16.96; 1909, 16.26; 1908, 17.39; 1907, 16.01; 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73, and 1902, 14.74. The average annual mortality for the period from 1902 to 1913, inclusive, was therefore 15.82 per thousand. The chief death causes in the order named were senility, "heart disease," cerebral hemorrhage, pneumonia and nephritis. The age at death varied from 22 to 98, with an average of 59 years, 8 months and 12 days. The general average age at death since 1904 is 59 years, 7 months and 21 days. The number of years of practice varied from 1 to 73, the average being 32 years, 11 months and 7 days. The average for the past 10 years is 32 years, 7 months and 22 days.

CAUSES OF DEATH.—There were 253 deaths assigned to general diseases; 246 to diseases of the nervous system; 301 to diseases of the circulatory system; 166 to diseases of the respiratory system; 125 to diseases of the digestive system; 148 to diseases of the genito-urinary system; 298 to senility; 7 to diseases of the skin; 3 to diseases of bones; 43 to suicide; 101 to accident; 19 to homicide, and 82 to other causes. Among the principal assigned causes of death are senility, 298; "heart disease," 227; cerebral hemorrhage, 195; pneumonia, 150; nephritis, 140; accident, 101; after operation, 80; tuberculosis, 68; cancer, 54; suicide, 43; arteriosclerosis, 30; diabetes, 29; septicemia, 26; appendicitis, 25; angina pectoris, 23; gastritis, 21; homicide, 19; typhoid, 18; influenza and peritonitis, each 11; cirrhosis of liver, 10; anemia, mental alienation, myocarditis, gastric ulcer and cholecystitis, each 9; erysipelas and scarlet fever, each 8; meningitis and abscess, each 7; bronchitis and intestinal obstruction, each 6; diphtheria and prostatitis, each 5; locomotor ataxia, general paralysis of the insane, embolism, pleurisy, duodenal ulcer and enteritis, each 4; malaria, alcoholism, chorea and endocarditis, each 3; typhus fever, tetanus, rheumatism, aneurysm, hernia, mastoiditis and labor, each 2 deaths, and pertussis, syphilis, drug addiction, epilepsy, Hodgkin's disease and osteomyelitis, each 1 death.

The causes assigned for the 101 deaths from accident were: automobiles, 34; falls, 11; runaways, 10; poison, 9; drownings and railway, each 8; conflagrations and street cars, each 3; exposure, asphyxiation, crushing, sunstroke and strangulation, each 2, and burns, firearms, cutting instruments, explosion and electricity, each 1. The 43 physicians who ended their lives by suicide selected the following methods: firearms, 24; poison, 14; strangulation and cutting instruments, each 2, and jumping from high places, 1. Of the 19 homicides, 17 were due to firearms and 2 to clubbings or beatings. Of these, 5 occurred in feuds or affrays.

AGES.—Of the decedents, 68 were between the ages of 21 and 30; 213 between 31 and 40; 317 between 41 and 50; 419 between 51 and 60; 500 between 61 and 70; 399 between 71 and 80; 146 between 81 and 90, and 24 were more than 90 years of age. The greatest mortality occurred at the age of 63, when 70 deaths were recorded; at 68, with 60 deaths; at 66, with 56 deaths; at 60 with 55 deaths; at 73, with 51 deaths, and at 69 and 70, when 50 died. There were 9 deaths at 91; 5 at 92; 3 at 93; 2 each at 97 and 98, and 1 each at 94, 95 and 96.

Years of Practice.—By periods of 10 years the physicians died as follows: in the first decade, 197, of whom 4 had been in practice less than 1 year and 25 less than 2 years; in the second decade, 351; third decade, 465; fourth decade, 495; fifth decade, 424; sixth decade, 192; seventh decade, 60, and eighth decade, 3, two of whom had been in practice more than 73 years.

Military Service.—During the year, 258 died who had served in the Civil War, and of these, 72 followed the fortunes of the Lost Cause, 92 were medical officers of United States Volunteers and 2 were medical cadets. There were 3 veterans of the Mexican War; 19 had served in the Spanish-American War, 1 had served in Indian wars, 3 had been in the Indian Service, and 15 had seen service in foreign wars. The Army lost 29 medical officers, past and present, 4 officers of the Medical Reserve Corps on the active and inactive lists, and 13 acting assistant or contract surgeons. The Navy lost 14 medical officers, the Public Health Service 12 officers and the Organized Militia 30, of whom 11 had attained the grade of surgeon-general.

Medical Positions.—Medical colleges sustained the loss of 155 professors, lecturers, instructors and demonstrators; hospitals lost 280 members of staffs; municipalities, townships and counties, 150 health officers, and school boards or boards of education, 85 members. There were 25 deaths of members of state boards of health, medical registration and examination and charities; 45 of coroners and medical examiners, and 93 of railway surgeons.

Civil Positions.—Of those who died, 1 had been a member of Congress; 10 members of state senates; 32 members of the house of representatives; 44 had been mayors; 28 councilmen or aldermen; 41 had served in various civil official positions; 11 had been postmasters; 24 editors of medical or lay journals; 24 were also clergymen, of whom 14 were or had been foreign missionaries; 9 had been attorneys; 2 had been members of the diplomatic corps; 33 were bankers; 6 dentists; 16 pharmacists; 3 chemists, and 9 had been medical directors of life insurance companies or fraternal insurance societies.

THE HISTORY OF SPECTACLES

We have already given[1] an account of the discovery of the earliest known pair of spectacles, those belonging to Willibald Pirkheimer in the Wartburg, by Greeff of Berlin; more recently Greeff[2] has described a still earlier pair, probably made before the year 1500, which were brought to his attention by Sudhoff of Leipsic. These were found in an old volume of incunabula by the well-known antiquarian bookseller, Jacques Rosenthal, and were presented by him to the Germanic National Museum at Nuremberg, where they are now to be seen in the sections devoted to costumes and personal ornaments. The frame is of tanned blackened leather, of obvious Nuremberg make, and, like the Pirkheimer spectacles, of the old traditional "nose-rider" shape, but they are clumsier and thicker than the Pirkheimer pattern of 1520-1530. The lenses are lacking. In view of these characteristics and of the fact that they were found in an old fifteenth-century folio, Greeff and Sudhoff seem to have no doubt that they were made before 1500.

Greeff[3] also traces the evolution of the true modern spectacles from the old nose-riders (the originals of the pince-nez), and describes the binocles or *Scheerenbrillen* which came into fashion in 1796, consisting of two lenses mounted on a scissor-shaped handle, the originals of the modern lorgnette. The earliest form of the true spectacle glasses was invented and introduced by Monsieur Thomin, *marchand miroitier lunettier* of Paris, and were essentially "temple spectacles" (*lunettes à tempes*), the shanks extending no further than the temples. There were two kinds, one with a small end-platelet, which was represented in a portrait by Pelham, an English painter of the eighteenth century, of which a copper plate was made by J. Clark; the other, which is to be seen in Graff's portrait of Chodowiecki (1795), with a characteristic large circular fastener at the end of the shank, which held the spectacles against the temple. The next stage was that of the "ear spectacles," which at first had crude, heavy, clumsy shanks, jointed at the end, like those in the Beethoven house at Bonn, which were further improved by slitting the ends or by means of an olive-shaped fastener. The next improvement, consisting of a jointed appendage to the shank which passed underneath the occiput, was made in 1752 by the London optician J. Ayscough. A later variant of this joint passed downward and backward underneath the ear. Still another variety of this joint was so arranged that it could be bent suboccipitally, as in the first instance, but otherwise bent back *in extenso* when the glasses were not in use. These were called extension-spectacles (*Auszichbrillen*). Up to the beginning of the eighteenth century the lenses were still very large and round; but after that time they began to be octagonal, square, rectangular and finally oval. About the same time the bridge began to change in shape, first assuming the form of a K placed sidewise.

The origin of the present fashion of large circular lenses set in delicate tortoise-shell mounts is a pastel portrait of the painter Chardin in the Louvre, executed by himself in 1760, the spectacles in which were copied with great success by recent French opticians and are known in Paris as Chardin spectacles. The same type is familiar to us in a well-known portrait of Benjamin Franklin. Four or five years ago, says Greeff, a young woman or lady of fashion would have been horrified at the notion of wearing spectacles of such an unsightly type. To-day she would regard it as not only chic, but the height of elegance. Plenty of people in America are inclined, no doubt, to revive the traditions of "old Ben Franklin's days" for similar reasons, although the optical advantages and the comfort of these large lenses are obvious.

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[1] The Earliest Known Pair of Spectacles, The Journal A. M. A., Nov. 9, 1912, p. 1721.

[2] Greeff, R.: Ztschr. f. ophth. Optik, 1913, i, 46.

[3] Greeff, R.: Ztschr. f. ophth. Optik, 1913, i, 11.

Current Comment

THE EFFECT OF PNEUMOTHORAX ON THE BLOOD

Attention has previously been called to the undeniable increase in the number of red blood-corpuscles and in the content of hemoglobin in the blood which life at higher altitudes calls forth in man.[1] The fundamental factor in bringing about this functional response is admitted to be the lowered partial pressure of the oxygen of the atmosphere at the higher levels. There are ways of decreasing the oxygen-obtaining capacity of the blood other than by diminution in the tension of the gas in the inspired air. The function of the inner lung-surfaces that are used in respiration can be limited decidedly by the production of a one-sided pneumothorax—a procedure which at present finds application in the domain of therapy. Under such circumstances the response of the blood-forming organs is quite comparable with what takes place at altitudes. The number of erythrocytes and the content of hemoglobin rapidly increase.[2] There are evidences that this is not the result of mere concentration of the blood-plasma; the blood picture as well as the analytic data clearly suggest a new formation of the blood components concerned in the oxygen-carrying function. It would appear, therefore, that it matters little how a deficiency of respired oxygen is threatened in the body; the response in the way of compensatory processes such as are represented in the regeneration or new formation of blood-cells and pigment is prompt and characteristic.

THE SYNTHETIC CAPACITIES OF BACTERIA

There is constantly growing evidence that the animal organism is capable of synthetic activities which were scarcely appreciated or in any way anticipated a generation ago, when such powers were relegated almost exclusively to the domain of plant performances. Nevertheless it is likewise becoming clear that however important and effective these constructive functions of the animal cells may prove to be, they have certain limitations which render them incapable of meeting in a synthetic way all the demands which nutritive emergencies put on them from time to time. From observations of Abderhalden, Osborne and Mendel, and others, it appears that lack of cyclic groups, such as are represented by tyrosin, tryptophan and phenylalanin in the ordinary proteins, leads to nutritive failure, which cannot be remedied by constructive functions on the part of the organism suffering from a loss of these aromatic amino-acids. For this reason gelatin, for example, being deficient in the cyclic "building-stones," fails to satisfy the protein requirements of the animal body completely. Plants, of course, construct the cyclic derivatives readily from elementary compounds. The supreme synthetic efficiency of the vegetable organism is shown in the production of the familiar alkaloids which afford exquisite illustrations of the type of substance referred to. The bacteria, which are commonly classed with plant forms, are likewise known to exhibit synthetic capacities and to construct their own complex protoplasm in relatively simple nutrient mediums. Whether or not this power of synthesis actually includes the ability to construct cyclic compounds like tyrosin, etc., has been answered in a positive sense by recent experiments of Tamura.[1] By growing bacteria in solutions devoid of any organic substances other than lactic acid, glycerol and asparagin, he has obtained an abundant "crop" of micro-organisms, which, on analysis, exhibited the presence of the nitrogenous phosphatids, purin bases and proteins in abundance. The new construction of the cyclic aromatic fragments of the proteins, so difficult to demonstrate in the animal organism, is thus shown to proceed with ease in the metabolism of the bacteria.

AN ORDINANCE TO PUNISH MISLEADING ADVERTISING

Following the recent exposure in Chicago of quack doctors, who exist there, as elsewhere, only by virtue of the use of the newspapers, the city council has passed an ordinance intended to prevent false and misleading newspaper advertising in Chicago. It follows closely the *Printers' Ink* bill, which, with modifications, has already been enacted into law in sixteen states.[2] The statute not only reaches the quack who depends on newspaper advertising for the prosperity of his swindling operations, but is also sufficiently broad to cover other fraudulent advertising, in particular, advertisements of fake auctions, fire sales, bankrupt sales, etc. It forbids the publication of any "advertising which contains assertion, representation or statement which is untrue, deceptive or misleading."

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[1] Blood Phenomena of Altitude, editorial, The Journal A. M. A., July 26, 1913, p. 283.

[2] Bürker, K.; *Ederle, R., and* Kircher, F.: Ueber Aenderung der sauerstoffübertragenden Oberfläche des Blutes bei Aenderung der respiratorischen Oberfläche der Lunge, Zentralbl. f. Physiol., 1913, xxvii, 623.

[1] Tamura, S.: Zur Chemie der Bakterien II, Ztschr. f. physiol. Chem., 1913, lxxxviii, 190.

[2] Truth in Advertising, Propaganda Department, The Journal A. M. A., May 3, 1913, p. 1377.

Simple Mind or Mediocre.—Simple minds are contented with mystic solutions, with an illusory play of words. Men of science investigate with an open mind, are satisfied with their work, which, if slow, is certainly progressive. But the mediocre mind wishes to know everything without much trouble, and has a strange longing for prompt and safe formulae. Such men are the predestined victims of prejudice and scientific quackery.—Lugaro, Problems in Psychiatry.

Medical News

ILLINOIS

Personal.—Dr. Alonzo B. Middleton, Pontiac, left January 1 for Europe.——Dr. Clinton Helm, Rockford, who has been ill for a long time, is reported to be slowly improving.——Dr. Charles E. Sisson, Elgin, is reported to be seriously ill with scarlet fever.——Dr. L. S. Gabby of the Kankakee State Hospital will assume charge, some time this month, of the pathologic and research laboratory established and equipped by Drs. O. L. Pelton, Sr., and Jr., of Elgin.——Dr. Cyrus W. Rutherford has been appointed local surgeon for the Cincinnati, Hamilton and Dayton Railway at Newman.

Promotional Examination.—At a promotional civil examination held November 28 for members of the Cook County Hospital staff the following received positions as chief attending physicians and surgeons: Dr. Joseph A. Capps, department of medicine; Dr. E. Wyllys Andrews, department of surgery; Dr. Henry F. Lewis, department of obstetrics; Dr. Channing W. Barrett, department of gynecology; Dr. H. Bascom Thomas, department of orthopedics; Dr. Clifford G. Grulee, department of pediatrics; Dr. Stanton A. Friedberg, department of diseases of the ear, nose and throat; Dr. George F. Suker, department of diseases of the eye, and Dr. Frederick G. Harris, department of skin and venereal diseases, all of Chicago.

Chicago

Nurses' Home Opens.—The Home of the Training School for Nurses of the Presbyterian Hospital, erected at the cost of $365,000 as a memorial to the late Otho S. A. Sprague, was opened informally, December 31. The building is a seven-story structure opposite the hospital and connected with it by a tunnel and contains class rooms, demonstration rooms, laboratory, etc., and has accommodation for 160 nurses.

Personal.—Dr. L. Blake Baldwin has returned after a year spent as ship surgeon on transpacific steamers.——Dr John E. Owens, for more than twenty-five years chief surgeon of the Chicago and Northwestern System, has been appointed consulting surgeon of the road and Dr. Clarence W. Hopkins has been promoted to chief surgeon.——Dr. Samuel D. Nixon was seriously injured in a collision of his motor car and a Baltimore and Ohio train at an unguarded grade crossing, December 28.

Meeting of Alienists and Neurologists.—The Chicago Medical Society will hold its third annual conference with the alienists and neurologists of the United States, July 14 to 18. The object is to have a scientific program, including research work which will be of benefit to every physician whether in general practice or connected with an asylum or sanatorium. One day is to be devoted to a public meeting at which the prevention of insanity and the conditions causing mental defectives will be discussed. At this session resolutions will be introduced for the framing of such laws as will, in a reasonable measure, prevent these conditions, and these resolutions will be presented for consideration to the various state legislators and national governors. The Committee on What Constitutes a Modern Hospital or Asylum and What are the Duties of the State to the Physician makes the care of the insane and mental defectives a specialty, and will present its report. Superintendents and members of the attending staff of the state hospitals and sanatoriums and neurologists are invited to participate in this meeting. Communications should be addressed to the secretary, Dr. W. T. Mefford, 2129 West Madison Street.

Appropriations and Increase in Infectious Diseases.—The commissioner of health of Chicago, in presenting the budget of the requirements of the health department for the year 1914, calls attention to the fact that the financing of the various bureaus has not kept pace with the problems connected with the control of contagious diseases and the increased growth of the city. This refers chiefly to the inspection department, and the result is seen in the figures, which show an increase in practically all of the contagious diseases for the year 1913. Among the diseases which affect chiefly children, the figures for the first eleven months of 1913 are as follows: Measles, 14,986 reported cases and 286 deaths; increases over 1912 of 155 per cent. in cases, and 94 per cent. in deaths. Scarlet fever, 10,136 reported cases and 876 deaths; increases of 32 per cent. in cases and 71 per cent. in deaths. Diphtheria cases reported, 7,781; deaths, 886; increases of 24 per cent. in cases and 8 per cent. in deaths. Increases among the less fatal diseases of childhood are: 718 chicken-pox, 434 mumps and 240 German measles. Among those diseases which menace, chiefly, adult life there are notable increases as follows: typhoid fever cases reported, 1,385; deaths, 218; increase of 42 per cent. and 35 per cent. respectively. Small-pox cases reported, 67 increase; deaths show a decrease of 5. Tuberculosis cases reported, 1,772 increase; deaths, 101 increase. The respective increases are 26 per cent. and 3 per cent. Pneumonia and influenza also show slight increases. It is said that better control of milk and other foodstuffs, housing and ventilation will go a long way toward reducing these diseases to a minimum. Largely increased appropriations for 1914 have therefore been insisted on. At present Chicago spends about 1.5 per cent. of its total appropriation of $60,000.000 for health purposes, a smaller percentage than any other large city in the United States.

INDIANA

Quarantine Removed.—The Wabash Employees Hospital, Ridgeview, which has been under quarantine on account of a case of small-pox for more than a month, has been reopened.

Wishard Memorial Meeting.—At a meeting of the Indianapolis Medical Society, December 11, the session was devoted to addresses in recognition of the life and work of the late Dr. William Henry Wishard. Memorial resolutions were adopted and a committee was appointed to prepare a special memorial on the life and services of Dr. Wishard.

Tuberculosis Items.—A camp for the treatment of persons affected or afflicted with tuberculosis has been given by the commissioners of St. Joseph County as a Christmas gift to the county, covering a site of 30 acres, to which 60 acres will be added and cottages will be constructed as soon as spring opens.——Work was commenced December 12 on the construction of two tuberculosis open-air dwellings to be placed for exhibition purposes in the courthouse square at Lafayette.

Hospital News.—The balance of the funds collected in Indiana for flood sufferers, which amounted to $1,116, has been devoted toward the fund for the maintenance of a hospital in Shelbyville.——A cancer hospital is to be established in Indianapolis by the Peoples Union. There will be a free clinic in connection with the institution. Dr. Thomas C. Kennedy will be superintendent of the hospital; Dr. J. W. Duckworth, assistant superintendent, and Dr. Orvall Smiley, pathologist.

Personal.—Dr. Charles S. Woods, formerly city sanitarian of Indianapolis, has accepted the professorship of preventive medicine in the University of Iowa and moved to Iowa City, December 28, to take up his new duties.——Dr. Joseph W. Patterson, Fairmount, is reported to be critically ill with disease of the kidney.——Dr. John H. Luken, Richmond, while riding a bicycle, December 23, collided with an automobile and was painfully injured.——Dr. A. C. Shauck, Arlington, was thrown from a motorcycle, December 19, and sustained painful cuts and bruises.——Dr. Christian B. Stemen, Fort Wayne, who has been seriously ill for several months, is now reported to be convalescing.

New Officers.—Miami County Medical Society at Peru, December 26: president, Dr. Homer E. Line, Chili; secretary-treasurer, Dr. Martin A. McDowell, Peru.——Grant County Medical Society at Marion, December 24: president, Dr. Glen D. Kimball; secretary, Dr. James E. Johnson, both of Marion.——Vanderburg County Medical Society at Evansville, December 23: president, Dr. Gardner C. Johnson; secretary-treasurer, Dr. Clarence A. Hartley, both of Evansville.——Tippecanoe County Medical Society at Lafayette, December 23: president, Dr. Robert M. Campbell; secretary, Dr. Earl Van Reed, both of Lafayette.——Owen County Medical Association at Gosport, December 19: president, Dr. George L. Mitchell, Quincy; secretary, Dr. Allen Pierson, Spencer.——Elkhart Academy of Medicine, December 18: president, Dr. James A. Work, Jr.; secretary-treasurer, Dr. Hannah O. Staufft.——Clay County Medical Society at Brazil, December 18: president, Dr. Melvin H. Young, Harmony; secretary-treasurer, Dr. Frederick C. Dilley, Brazil.——Kosciusko County Medical Society at Warsaw, December 12: president, Dr. Charles A. Thomas, Leesburg; secretary-treasurer, Dr. Forrest J. Young, Milford.——Greene County Medical Society at Linton, December 18: president, Dr. Benjamin F. Chambers, Lyons; secretary-treasurer, Dr. Elias R. Mason, Bloomfield.——Laporte County Medical Society at Laporte, December 12: president, Dr. Dexter A. Buck; secretary, Dr. Harvey H. Martin, both of Laporte.——Bartholomew County Medical Association at Columbus, December 9: president, Dr. Herman H. Kamman; secretary-treasurer, Dr. Elmer U. Wood, both of Columbus.——Lake County Medical Society at Hammond, December 9: president, John W. Iddings, Lowell; secretary-treasurer, Dr. Eldridge M. Shanklin, Hammond.——Clinton County Medical Society at Frankfort, December 4: president, Dr. John C. Robinson, Geetingsville; secretary-treasurer, Dr. Archibald Golding Chittick, Frankfort (reelected).

IOWA

Personal.—Dr. Ulysses G. Grigsby, Perry, has resumed practice after a serious illness of several weeks.——Dr. Samuel D. Tobey, Council Bluffs, who was seized with cerebral hemorrhage December 5, is said to be improving at the Jennie Edmondson Memorial Hospital.

Hospital News.—Des Moines General Hospital will open a new free dispensary this month.——The new Contagious Hospital erected by Des Moines adjoining the Small-Pox Hospital is complete, but still lacks equipment.——The tuberculosis sanatorium for Polk County at the county farm near Saylorsville, is ready for occupancy. The building will accommodate twenty patients.

New Officers.—Hardin County Medical Association at Eldora; president, Dr. Frank Siedenburg, Alden; secretary, Dr. Nathan C. Morse, Eldora.——Polk County Medical Society at Des Moines, December 23: president, Dr. Granville N. Ryan; secretary, Dr. Thomas F. Duhigg (reelected), both of Des Moines.——Decatur County Medical Society at Leon, December 12: president, Dr. Jesse S. Coontz; secretary-treasurer, Dr. William E. Lyons, both of Garden Grove.——Page County Medical Society at Shenandoah, December 18: president, Dr. Robert J. Matthews, Clarinda; secretary, Dr. B. S. Barnes, Shenandoah.——Floyd County Medical Society at Charles City, December 19: president, Dr. Charles J. O'Keefe, Marble Rock; secretary-treasurer, Dr. Charles O. Yenerich, Rockford.——Union County Medical Society at Creston, December 17: president, Dr. J. W. Fry; secretary, Dr. Thomas V. Golden, both of Creston (reelected).——Taylor County Medical Society at Bedford, December 15: president, Dr. Henry F. Dunlavy; secretary-treasurer, Dr. Clayton M. Paschal, both of Bedford.——Wright County Medical Society at Clarion, December 17: president, Dr. Thomas J. O'Toole; secretary, Dr. William C. McGrath, both of Eagle Grove.——Greene County Medical Society at Jefferson, December 11: president, Dr. George W. Kester, Grand Junction; secretary-treasurer, Dr. Benjamin C. Hamilton, Jr., Jefferson.——Washington County Medical Society at Washington, December 16: president, Dr. Marcus C. Terry, Brighton; secretary-treasurer, Dr. Clyde A. Boice, Washington.——Iowa County Medical Society at Marengo, December 11: president, Dr. Chas. F. Noe, Amana; secretary, Dr. George F. Schug, Williamsburg.——Burlington Medical Society, December 10: president, Dr. Albert C. Moerke; secretary, Dr. E. A. Hunt.

NEW YORK

Sanatoriums Wanted.—Citizens of Lyons Falls and vicinity appealed to the board of supervisors of Lewis County to take immediate steps to establish a county hospital for tuberculosis.——Chenango County is the twenty-ninth county in the state to vote for the establishment of a county hospital for tuberculosis.——The tuberculosis sanatorium established by the Metropolitan Life Insurance Company on Mount MacGregor for the care of its employees is completed and receiving its first patients. Dr. Horace J. Houk is the physician in charge of the institution.

New Officers.—Lewis County Medical Society at Lowville, December 9: president, Dr. Ira D. Spencer, Croghan; secretary, Dr. Edward N. K. Mears, Lowville.——Chautauqua Medical Association at Dunkirk, December 9: president, Dr. George F. Smith, Falconer; secretary-treasurer, Dr. Josiah W. Morris, Jamestown.——Chenango County Medical Society at Norwich, December 10: president, Dr. John D. T. Hand, New Berlin; secretary, Dr. Paul B. Brooks, Norwich.——Schoharie County Medical Society at Cobleskill December 9: president, Dr. Carolyn L. Olendorf, Cobleskill; secretary, Dr. Herbert L. Odell.

Personal.—Dr. Norman H. Soble, a member of the police commission of Elmira, has been appointed a member of the board of managers of the State Tuberculosis Hospital.——Dr. Joseph D. Craig, for fourteen years health officer of Albany, has retired from that position, and on December 30 was presented by the employees of the office with a loving cup.——A dinner was given by the physicians of Syracuse, December 30, to the outgoing health officer, Dr. David M. Totman, and the incoming health officer, Dr. Frederick W. Sears.——In the case of George E. Kusnezsky against Dr. George E. Smith, Fredonia, who was sued for $2,000 for alleged malpractice, a verdict of "no cause for action" was returned by the jury, December 24.——Dr. Arthur H. Brown, Auburn, gave a dinner to the medical profession of Cayuga County December 23 in honor of the thirtieth anniversary of his practice in the city. Dr. John D. Tripp, on behalf of the physicians present, surprised Dr. Brown by presenting him with a silver loving-cup.——Dr. and Mrs. Jacob J. Levy, Syracuse, have returned from Europe.

New York City

Cancer Laboratory Ready.—The Crocker Research Cancer Laboratory at Columbia University has been completed and turned over to the commission headed by Dr. Frances Carter Wood, which will begin its work this month. The building is three stories and a basement in height and 100 by 35 feet.

New Officers.—Caledonian Medical Society, fourth annual meeting, in Brooklyn, December 29: president, Dr. William J. Cruikshank; secretary-treasurer, Dr. Sutherland Miller, both of Brooklyn.——Medical Society of the County of Kings, ninety-third annual meeting, at Brooklyn, December 16: president, Dr. J. Richard Kevin; secretary, Dr. Burton S. Harris.

Personal.—Dr. Livingston Farrand, executive secretary of the National Association for the Prevention of Tuberculosis, has resigned to become president of the University of Colorado.——Dr. L. Emmett Holt, who was operated on for appendicitis at his home December 15, is convalescent.——Dr. Harold W. Wright, formerly of Bellevue Hospital, has located in Santa Barbara, Cal.

OHIO

Sanatorium to Be Removed.—The Cleveland City Tuberculosis Hospital is to be moved to Warrenville, where it will be conducted with other antituberculosis industries under the supervision of Dr. Robert H. Bishop, Cleveland.

Scarlet Fever in Cleveland Hospital.—There has been a severe outbreak of scarlet fever at Huron Road Hospital which necessitated the quarantining of the institution. Mr. Ray Ewark Parks, a senior student in the medical department of the Western Reserve Medical College, died from the disease December 13, and Dr. R. L. Allen, one of the house staff, a nurse and an orderly are also ill with the disease.

Personal.—Drs. Paul J. Hanzlik and Howard Lester Taylor of Cleveland have started for Europe.——Dr. James H. Hewitt, Cleveland, has been appointed resident pathologist of the Cleveland City Hospital.——Dr. Clyde E. Ford has been appointed executive head of the Cleveland Health Department and Dr. Martin Friedrich medical expert of the department.——Drs. Harry S. Davidson and James G. Grant, Akron, whose offices in the Woods Building recently burned, have opened offices in the Everett Building.——Drs. Oscar S. Cox McArthur and Clinton J. Altmaier, Columbus, have been appointed as assistant medical examiners for the Workman's Compensation Department of the State Industrial Commission.——Dr. William H. Begg, Columbus Grove, was recently operated on for goiter in a hospital in Toledo.

New Officers.—Celsus Club at Akron: president, Dr. Dell S. Bowman; secretary-treasurer, Dr. Charles E. Norris.——Barberton Medical Association: president, Dr. William A. Hansfield; secretary-treasurer, Dr. Herbert A. Rodenbaugh.——Cleveland Academy of Medicine: president, Dr. John J. Thomas; secretary-treasurer, Dr. Jacob E. Tuckerman.——Cleveland Medical Library Association: president, Dr. Benjamin L. Millikin; secretary, Dr. Henry L. Sanford.——Clermont County Medical Association at Milford, December 17: president, Dr. Frank H. Lever, Loveland; secretary, Dr. Frank A. Ireton, Newtonsville.——Richland County Medical Society at Mansfield, December 24: president, Dr. John Maglott; secretary-treasurer, Dr. Julia Lillian McBride, both of Mansfield.——Columbus Academy of Medicine, twenty-second annual meeting, December 15: president, Dr. Fred Fletcher; secretary, Dr. Roscoe R. Kahle.——Mahoning County Medical Society at Youngstown, December 16: president, Dr. Charles D. Houser; secretary, Dr. Harry E. Patrick, both of Youngstown.——Fairfield County Medical Society at Lancaster, December 16: president, Dr. George S. Courtright, Lithopolis; secretary-treasurer, Dr. Henson M. Hazelton, Lancaster.——Knox County Medical Society at Mount Vernon, December 10: president, Dr. Irvin S. Workman, Mount Vernon; secretary-treasurer, Dr. Ernest V. Ackerman, Fredericktown.——Van Wert County Medical Society at Van Wert, December 8: president, Dr. Martin Cramer; secretary-treasurer, Dr. Charles G. Church, both of Van Wert.——Greene County Medical Society at Xenia, December 4: president, Dr. Clarence G. McPherson; secretary, Dr. David E. Spahr, both of Xenia.——Drake County Medical Society at Greenville, December 11: president, Dr. Jacob C. Poling, Ansonia; secretary-treasurer, Dr. John E. Hunter, Greenville.——Hancock County Medical

Society at Findlay, December 4: president, Dr. Robert B. Taylor, Arcadia; secretary, Dr. Nelia B. Kennedy (reelected), both of Findlay. The society presented to Dr. Kennedy a silver loving cup in appreciation of her service as secretary of the organization.

Cincinnati

Library Enlarged.—The library of the Medical School of Cincinnati has been greatly increased during the past year, both by donation and purchases. It is under the charge of Miss Frances, secretary of the Medical Library of the University.

Visiting Nurses' Activities.—A movement is on foot in Cincinnati whereby the benefits of the visiting nurses may be extended to the middle class, who will be expected to pay a moderate price for services rendered.——The Visiting Nurses' Association collected $8,000 by its recent leadpencil sale.

Cincinnati Women's Medical Society.—This society, which was organized only a year ago, has grown into an active and flourishing medical body. It has in contemplation the establishment of a new lying-in hospital for the accommodation of the middle classes and it is said that the building of the Ohio Maternity Hospital may be employed for this purpose.

University Instals New Dean.—The University of Cincinnati will celebrate the installation of Dr. Christian R. Holmes as dean of the Medical College January 16. Dr. William Henry Welch, professor of pathology at Johns Hopkins University Medical School, Baltimore, and acting president of that university, will make the address of the occasion. Dr. Welch is the greatest authority in America on medical education and the object of this celebration is to call attention to the advance in the standards of the medical colleges throughout the country and especially the standards of admission thereto. During the last five years the great majority of the proprietary medical schools have been eliminated or united with the universities. The university medical college is now recognized as the highest type of medical school, and it is believed that after a few years it will be the only type in this country. Since the union of the medical colleges with the universities their standards have been greatly advanced. The first step has been to put all of the fundamental scientific departments in charge of full time professors instead of practitioners, as in the older colleges. These men devote all of their time to teaching and research work in the medical sciences. The next step was to advance the standards of admission. The Council on Education of the American Medical Association, which has led in the campaign for these improvements, now announces that sixty of the medical colleges in this country already require college preparation for entrance, and that by 1915 this number will be increased to eighty. This makes it necessary that the academic institutions shall establish courses in sciences and languages to prepare students to study medicine. In view of this situation the medical faculty of the University of Cincinnati has arranged to hold on January 17 a conference of presidents and professors of academic institutions with the deans and professors of the medical schools on the subject of preparatory medical education. Representatives of both these classes of institutions are cordially invited to attend the celebration as well as the conference. A very interesting program has been arranged, including a visitation of the new hospital and laboratories of the Cincinnati University Medical College and luncheon at the University, followed by a conference meeting and a dinner at the Business Men's Club.

OKLAHOMA

Hospital Notes.—The new State Hospital for the Insane at Vinita is rapidly nearing completion.——Physicians of Durant have completed plans for the erection of a new hospital in that city.

Tuberculosis Notes.—The Oklahoma Association for the Study and Prevention of Tuberculosis has been put in operation at Oklahoma City without capital stock by Drs. Curtis R. Day, John W. Riley and John C. Mahr.

Hospital for Indians at Lawton.—Congressman Scott Ferris has secured an appropriation of $40,000 from congress for the erection of an Indian Hospital at Lawton, to be maintained by the interest on $275,000 recently obtained from the sale of tracts of Indian lands in Kiowa, Comanche, Apache and Wichita reservations in the state.

Personal.—Dr. William R. Bevan, Oklahoma City, is spend-

Drs. Littleton A. Newton and C. B. Parker, Guthrie, have been appointed as examiners of the public school pupils of Guthrie.——Dr. Edward D. James, Haileyville, has been appointed physician of Pittsburg County, vice Dr. H. E. Williams, removed.——Dr. and Mrs. Walter M. Jones, Enid, were the guests of honor at a banquet, December 12, given by the members of the Garfield County Medical Society.——Dr. and Mrs. Jones have left for San Francisco.

New Officers.—Kay County Medical Association at Blackwell, December 10: president, Dr. H. M. Stricklen, Tonkana; secretary-treasurer, Dr. Edgar J. Orvis, Blackwell.——Muskogee Medical Society, December 8: president, Dr. J. Hutchings White; secretary-treasurer, Dr. Benjamin H. Brown.——Pittsburg County Medical Society at McAlester, December 4: president, Dr. James C. Johnston; secretary-treasurer, Dr. Leonard S. Willour, both of McAlester.——Grady County Medical Society at Chickasha, December 5: president, Dr. Robert J. Baze; secretary, Dr. William H. Cook, both of Chickasha.

PENNSYLVANIA

New Officers.—Columbia County Medical Society at Bloomsburg, December 12: president, Dr. Joseph Cohen, Berwick; secretary-treasurer, Dr. Luther B. Kline, Catawissa (reelected).——Shamokin Medical Society, December 12: president, Dr. Clarence M. Malone; secretary, Dr. Henry T. Simmonds.

Home for Incurables Recommended.—In the annual report of General Agent Wharton to the State Board of Public Charities he recommends that serious consideration be given to the establishment of a state institution especially devoted to the care of incurable diseases, such as cancer and other wasting disorders.

Personal.—Dr. J. R. Burns, Luzerne, has been appointed a member of the staff of the Scranton State Hospital.——Dr. John C. McMillen, Barnesboro, who has been ill for several months with nephritis at the Spangler Hospital is reported to be improving.——Dr. Joseph S. Kowaleski, Shamokin, who has been seriously ill at the Jefferson Hospital, Philadelphia, with septicemia, due to an operation wound, has returned home convalescent.

New Hospital for Pittsburgh.—Contracts for the erection of the New Elizabeth Steel Magee Hospital, memorial of the late Hon. Christopher L. Magee to his mother, were let December 21. The building will be erected on a 10-acre lot, and will consist of a central building with five wings, each four stories in height, and will accommodate 120 adult patients in wards, twenty-one in private rooms and about eighty babies. The contract price is $600,000, and the equipment will necessitate the expenditure of at least an additional $50,000. The hospital will be chiefly for maternity cases, but will also have a well-equipped gynecologic department. Dr. Charles Edward Ziegler is to be director of the hospital.

Spring City Home to Treat Girls.—The newly elected officers and directors of the Eastern Pennsylvania State Institution for Feeble-Minded and Epileptics, Spring City, have adopted plans for the erection of two new buildings, for the care of girls under 21 years of age. This institution, organized in 1907, was originally intended to accommodate boys and girls, but the old board decided it would first take care of boys. The two new buildings for the exclusive use of girls will be built on the college plan with connecting corridors and subways, and will accommodate two hundred and twenty patients. The board also took over an adjoining farm of 70 acres, making 181 acres purchased since Jan. 1, 1913, now giving the institution a total of 470 acres. The last legislature appropriated $579,450 for the institution.

Philadelphia

Eugenics Law Does Not Decrease Marriage.—The new eugenics marriage law had no deterring influence on the number of marriages in this city, as there were 16,122 licenses issued in Philadelphia during 1913, as compared with 15,365 in 1912.

Rush Society Lecture.—The sixth Rush Society lecture will be delivered by Prof. Dr. Sven G. Hedin of the University of Upsala, Sweden, at the College of Physicians, Twenty-Second and Chestnut Streets, January 27, at 8:30 p. m., on "Colloidal Reactions and Their Relations to Biology."

Coroner's Statistics.—According to the records of the coroner's office there was an average of one murder in every five days during the year 1913. Forty-eight persons were killed by automobiles and three deaths resulted from motorcycle accidents. There were sixty-six deaths from trolleys and eighty-six lives were lost in railroad accidents.

Bureau of Health Report.—Vital statistics of the Department of Health for the year 1913 show that the number of deaths from all causes were 25,602, as compared with 24,215 in the year previous, thus increasing the death rate from 15.08 to 15.69 per 1,000. Tuberculosis caused the greatest number of deaths. The total number of communicable diseases reported was 35,457, as compared with 23,170 in 1912.

Personal.—Dr. Joseph S. Neff, director of the Department of Public Health and Charities, who has been ill for several days, is reported to be improving.——Dr. Charles S. Hirsch has been appointed urologist at Mount Sinai Hospital and genito-urinary surgeon to the Lebanon Hospital.——Dr. Charles W. LeFever has been appointed ophthalmologist to the Mount Sinai Hospital.——Dr. William W. Keen was elected president of the American Philosophical Society, January 2.

Fund for Cancer Study.—Mrs. Lucy Henderson of New Castle, Pa., has donated a sum to the Jefferson Hospital, the income of which is to be used in studying cures for cancer with special emphasis on the use of radium. The yearly income will approximate $3,500 and the fund will be known as the Lucy Henderson Foundation. The work of investigation for which the donation has been made will be carried on under the direction of Drs. J. Chalmers DaCosta, W. M. Late Coplin and Hobart Amory Hare.

New Officers.—Philadelphia Medical Examiners' Association: president, Dr. Foster K. Collins; secretary, Dr. J. Lawrence Fisenberg, Norristown.——West Philadelphia Medical Association: president, Dr. Christian B. Longenecker; corresponding secretary, Dr. Henry G. Munson.——Northern Medical Association: president, Dr. Thomas Shriner; secretary, Dr. Victor A. Loeb.——Southeastern Branch of the Philadelphia County Medical Society: chairman, Dr. Simon Wendkos; clerk, Dr. Morris Ginsburg.——Section on Otology and Laryngology of the College of Physicians: chairman, Dr. George Morley Marshall; clerk, Dr. Benjamin B. Parish.——Germantown Branch of Philadelphia County Medical Society, December 22: chairman, Dr. Harry B. Wilmer.

TEXAS

Personal.—Dr. Henry Winston Harper, professor of chemistry in the University of Texas, Austin, was made first dean of the graduate department, December 10.——Dr. Joseph B. McKnight, Brady, on December 17, was appointed superintendent of the State Tuberculosis Sanatorium, Carlsbad, vice Dr. Bascom Lynn, resigned.

New Officers.—Hardeman County Medical Society at Quanah, December 26: president, Dr. John J. Hanna; secretary-treasurer, Dr. Thomas D. Frizzell, both of Quanah.——Bexar County Medical Society at San Antonio, December 18: president, Dr. Charles D. Dixon; secretary, Dr. W. H. Hargis.——North Texas District Medical Association, sixty-eighth annual meeting, at Fort Worth, December 9 and 10: president, Dr. K. Herberden Beall, Fort Worth; secretary, Dr. H. Leslie Moore, Dallas.——Tarrant County Medical Association at Fort Worth, December 22: president, Dr. Samuel A. Woodward; secretary, Dr. Frank G. Sanders (reelected), both of Fort Worth.——Aunis Physicians' Club, organized December 19: president, Dr. Charles H. Breuer, Waco; secretary, Dr. Walter P. McCall, Ennis.——Ellis County Medical Society at Waxahachie: president, Dr. Zachary R. Bundy, Austin; secretary-treasurer, Dr. Edgar F. Gough, Waxahachie.——Pecos, Ward and Reeves Counties Medical Society at Pecos, December 14: president, Dr. William H. Benway; secretary, Dr. Otis J. Bryan, both of Pecos.——Hunt County Medical Association at Greenville, December 16: president, Dr. D. Richard Waddle, Greenville; secretary, Dr. Harry M. Bradford.——McLennan County Medical Society at Waco, December 2: president, Dr. James M. Witt; secretary-treasurer, Dr. Doyle L. Eastland, both of Waco.——Dallas County Medical Society at Dallas, December 1: president, Dr. Calvin R. Hannah; secretary, Dr. Royal S. Loving (reelected).

GENERAL

American Medical Association.—The annual session of the American Medical Association for 1914 will be held in Atlantic City. The House of Delegates will convene on Monday, June 22, and the Scientific Assembly — the sections — on June 23.

Fraternity Election.—The grand chapter of the Phi Chi Medical Fraternity, at its meeting in St. Louis, December 31, selected Richmond, Va., as the next place of meeting and elected the following officers: presiding senior, Dr. Charles H. Hibbitt, Louisville, Ky.; presiding junior, Dr. Paul Maher, St. Louis; secretary-treasurer, Dr. Dunning S. Wilson, Louisville, Ky., and editor-in-chief of the Phi Chi Quarterly, Dr. T. B. Pearson, Wilmore, Ky.

Bequests and Donations.—The following bequests and donations have recently been announced:

Frisbie Memorial Hospital, Rochester, N. H., about $25,000 for the endowment of a hospital by the will of Dr. J. F. Frisbie, Newton, Mass.

Jefferson County (Ala.) Antituberculosis Association, $2,500 to be used in an organized effort to relieve tuberculosis in Jefferson County by the will of Wilson R. Brown.

Various Jewish charitable institutions of Philadelphia, $2,300 by the will of the late Judith L. Freshie.

We Repeat This Warning.—A this time of the year the ubiquitous subscription swindler is abroad working a nefarious game in making collections from unsuspecting victims, as payment for new and renewed subscriptions to THE JOURNAL. Information has been received that certain individuals are working the medical profession in Ohio, Indiana, Tennessee and Kentucky. By next week these swindlers will probably have migrated to some other territory. Our readers are therefore cautioned to pay money to no one unless the proper credentials are produced. Letters of authority bearing the signature of George H. Simmons and the official seal of the American Medical Association are supplied to the A. M. A.'s representatives. The holders of such letters are the only ones authorized to make collections. Information by telegraph regarding any of these swindlers will be welcome.

A Tennessee physician describes a certain Walter Thorne, claiming to be our agent in Tennessee, but of whom we have no knowledge, as follows: About 5 ft. 10 in., slender, age 22 years, black hair and black eyes. Extremely immature and boyish looking. Slight defect in speech due to absence of right upper median incisor tooth; left upper incisor tooth replaced by gold tooth.

Biologic Federation Meeting.—At the annual meeting of the Federation of American Societies for Experimental Biology, an organization which includes the Physiological Society, the Society of Biological Chemistry and the Society for Pharmacological and Experimental Therapeutics, held in Philadelphia, December 21 to 31, the following officers were elected: president, Dr. Graham Lusk, New York City; vice-president, Dr. Carl Alsberg, Washington, D. C.; secretary, Dr. P. A. Shaffer, St. Louis; treasurer, Dr. D. D. Van Slyke, New York City, and councilors, Prof. J. J. Abel, Baltimore, and Prof. A. B. Macallum and Dr. T. B. Osborne, New Haven, Conn.——Of the component societies, the Physiologic Society elected Dr. W. B. Cannon, Harvard, president; Dr. A. J. Carlson, Chicago, secretary, and Dr. J. Erlander, St. Louis, treasurer; the Biological Society elected Dr. R. M. Morse, Philadelphia, president; Surgeon John F. Anderson, U. S. P. H. S., Washington, D. C., vice-president; Dr. George H. Whipple, Baltimore, secretary-treasurer, and Drs. Harvey Cushing, Boston, and David Marine, Cleveland, councilors; the Pharmacological Society elected Dr. Torald Sollmann, Cleveland, president; Dr. J. Auer, New York City, secretary; Dr. W. DeB. MacNider, New York City, treasurer, and Dr. Reid Hunt, New York City, chairman of the membership committee.

Resolutions on Animal Experimentation.—At its meeting in Philadelphia, December 31, 1913, the Federation of American Societies for Experimental Biology adopted the following resolutions:

1. We, the members of the Federation of American Societies for Experimental Biology—comprising the American Physiological Society, the American Society of Biological Chemists, the American Society for Pharmacology and Experimental Therapeutics, and the American Society for Experimental Pathology—in convention assembled, hereby express our accord with the declaration of the recent International Medical Congress and other authoritative medical organizations, in favor of the scientific method designated properly animal experimentation but sometimes vivisection.

2. We point to the remarkable and innumerable achievements by means of animal experimentation in the past in advancing the knowledge of biological laws and devising methods of procedure for the cure of disease and for the prevention of suffering in human beings and lower animals. We emphasize the necessity of animal experimentation in continuing similar beneficent work in the future.

3. We are firmly opposed to cruelty to animals. We heartily support all humane efforts to prevent the wanton infliction of pain. The vast majority of experiments on animals need not be and, in fact, are not accompanied by any pain whatsoever. Under the regulations already in force, which reduce discomfort to the least possible amount and which require the decision of doubtful cases by the responsible laboratory director, the performance of those rare experiments which involve pain is, we believe, justifiable.

4. We regret the widespread lack of information regarding the aims, the achievements and the procedures of animal experimentation. We deplore the persistent misrepresentation of these aims, achievements and procedures by those who are opposed to this scientific method. We protest against the frequent denunciations of self-sacrificing, high-minded men of science who are devoting their lives to the welfare of mankind in efforts to solve the complicated problems of living beings and their diseases.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec 20, 1913

The Health of Schoolchildren

The annual report for 1912 of the chief medical officer of the board of education has just been issued It contains an exhaustive account of the measures which are being taken throughout the country to safeguard the health of schoolchildren Uncleanliness still occupies a large share of the time and energy of the officers of the school medical service, but the returns show a decided and progressive improvement, and the grosser forms of uncleanliness are now rare as compared with the conditions that prevailed when medical inspection was instituted in 1908 There are about six million children in the public elementary schools About 10 per cent suffer from serious defects of vision Among the causes given are heredity, early eye strain, defective lighting, infectious diseases and neglect in obtaining early medical advice From 1 to 3 per cent suffer from defective hearing; from 1 to 3 per cent have suppurating ears, about 10 per cent have adenoids, inflamed tonsils or enlarged cervical lymph nodes requiring surgical treatment, 1 per cent have ringworm, 1 per cent suffer from tuberculosis of readily recognizable form, from 1 to 2 per cent have heart disease, from 30 to 40 per cent have unclean heads or bodies, and more than half the children are in need of dental treatment

In five directions school hygiene has undergone evolution. There has been a steady improvement in the routine work of medical inspection, and ancillary undertakings There is less "leakage," more following up and more accurate clinical examination Secondly, there is fuller differentiation of abnormal children and a tendency on the part of authorities to modify the school curriculum in their behalf. Much time and labor are now being devoted to mentally defective, tuberculous, stammering, and frail or retarded children Thirdly, there has been an enlargement of the conception of the sphere of influence of the school medical officers Education authorities are finding that though they have been appointed in the first place merely to inspect children, they may fill a very useful place in the educational system Fourthly, there has been a marked advance in respect of medical treatment both in quality and in quantity Lastly, the intimate relation between school hygiene and education is becoming recognized and its application understood The equipment of the school, the character of the teacher, the importance of physical exercise and manual work, the relation of the leaving child to the national insurance system, to industrial employment, to further education in secondary schools, and to its own home life, are now receiving attention Thus the school medical work and the issues arising therefrom are beginning to form an integral part of our educational system

Actinomycosis in Ox-Tongues Imported from Argentina

Dr W J Howarth, health officer of the city of London, and Dr H Williams, health officer of the port of London, have issued an interesting report on actinomycosis in ox tongues imported from Argentina These tongues arrive in a frozen condition at the rate of 10,000 per week About 5 per cent were found to be diseased The lymph nodes were more frequently affected than the blades of the tongue The lesions were fairly characteristic and the area involved by a single nodule varied in size from a pea to a five shilling piece The health officers conclude that actinomycosis is wide-spread in cattle in Argentina and that the supervision exercised to prevent the exportation of affected organs is inadequate As a large percentage of the affected tongues showed the disease in the lymph nodes alone, they recommend that these should be left attached to the tongue and not removed, as is sometimes done, when it is impossible to determine whether or not the tongue has come from an infected animal From a review of the literature of the subject they have come to the conclusion that the question of actinomycosis in cattle and even the prevalence of the disease in general have not been adequately investigated

Electricity and Radium in Agriculture

Mr T Thorne Butler has given an interesting lecture before the Royal Society of Arts on the application of electricity and radium in agriculture He said that a great deal of experimental work was going on now with radioactive material, which gave in some cases such remarkable results that radium must be taken into serious consideration from an agricultural point of view The residues resulting from radium extraction, which contained only a milligram or two of radium to the ton, and were at present regarded as of negligible value, were sufficiently active to produce marked effects on germination and greatly to increase the size of the plants and crops In some cases an increase of 300 and 400 per cent had been obtained The stimulating effects of a new type of combined high-frequency and positive electricity apparatus on young chickens was also described Not only was the loss of the very young birds during the first few days after hatching in incubators minimized, but the chickens grew at more than twice the normal rate, thus costing less than half the usual amount to grow

Scarcity of Physicians in South Africa

In a previous letter to The Journal it was pointed out that, whatever its defects, the national insurance act has greatly improved the financial position of physicians engaged in industrial practice, and that consequently there was a great falling off in the applicants for official appointments, even when advertised at greatly increased salaries The effect has not been confined to the United Kingdom but has spread to our nearest important colony, South Africa In an editorial article in the *South African Medical Record* it is pointed out that a short time ago when a minister of the government received a deputation from district surgeons asking for improved conditions of service his reply was that "every district surgeoncy is at once applied for by any number of doctors under the present conditions" Now the state of affairs is exactly the reverse The demand for physicians in South Africa is in excess of the supply, particularly outside the larger centers of population The government has the greatest difficulty in filling, even temporarily, junior appointments, despite increased remuneration Many of them have been advertised for months Moreover, the demand for the purchase of practices, except in exceptional cases, is practically nil This condition has been brought about by several causes The country has recovered from the war and there has been a general increase in the financial condition of the people and consequently in their capacity to pay a doctor In the Rand, one of the wealthiest places in the world, the advances are so great that there are unexampled facilities for a young physician without capital to jump after the slightest preliminary stage of a hospital resident or an assistant into an ample competence Thus men are attracted here from other parts of South Africa which are left bare There is the further factor that the improvement in industrial practice in Great Britain, referred to above, has to a great extent cut off the recruiting ground for South African physicians

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec 26, 1913

Complementary Medical Instruction

At its last session the superior commission on medical instruction framed a bill intended to organize a system of complementary medical instruction It is intended for students about to take their degrees, doctors desirous of keeping up with the progress of medical science and for foreign physicians and students It will include lectures, lessons and laboratory work Dr Le Gendre, a physician of the Lariboisière Hospital, suggests that much of the course be devoted to the study of social laws in relation to medicine School physicians and physicians whose practice is concerned with industrial accidents will obtain aid from such instruction The decree organizing this course will soon be submitted to the president of the republic

Compulsory Antityphoid Vaccination in the Army

Dr Léon Labbé who is a senator, recently proposed a bill to make antityphoid vaccination compulsory in the army The Senate on December 19 passed the bill, making it apply to the active army and applicable to the reserves by ministerial decree The bill was sent to the Chamber of Deputies, December 20, and there sent to the army committee, which will soon report It has already elicited severe criticism Dr L Granjux in the *Bulletin médical* has pointed out the inconvenience of compelling a soldier to submit to a vaccination which is not obligatory on other French citizens of the same age There are, indeed, precedents Formerly, vaccination and revaccination against small pox were compulsory in the army, while similar proceedings were optional for the civil population, but the law with regard to public hygiene removed this distinction between the civil and military population Compulsory antityphoid vaccination appears necessarily inoperative to Granjux. No one would ever dare to call before a court martial a soldier who had refused to be vaccinated against typhoid, and, in any case, he would be acquitted. If a soldier, who is in most cases a minor, were to produce a certificate from his father declaring that he was opposed to antityphoid vaccination on his son, what would be the situation of the army physician whose duty it was to vaccinate him? It seems, however, impossible to extend antityphoid vaccination to all branches of the army. Professor Vincent, indeed, has taken care to specify that vaccination should be performed only on healthy subjects. The successes which he has reported recently are due in part to this selection; and certainly his statistics would be less inviting if antityphoid vaccination should be practiced among all soldiers, for not only bad risks would be encountered, but also opposition. While optional antityphoid vaccination is gaining ground in the army constantly, it is to be feared that as soon as it becomes compulsory it will elicit opposition and hitherto unknown bad results. It is to be feared, moreover, that if antityphoid vaccination were made compulsory, the garrison cities where typhoid is endemic would regard such hygienic measures as purification of water and improvement of drainage as useless since the inhabitants were protected from the disease by vaccination. To make antityphoid vaccination compulsory in the army, in the opinion of Granjux, would risk the progress of *social and public hygiene in France.*

The Causes of Mortality in France

The director of public charities and hygiene has just handed in to the minister of the interior his report on the sanitary situation of France in 1911. The death-rate for this year was high in France as in other countries. The total number of deaths was about 775,088, an average of about 1,959 deaths per hundred thousand inhabitants and an increase of 70,318 over the figures of the previous year, which, however, were exceptionally low. The excess of deaths representing the difference between the two years was composed as follows, according to the age of the decedents:

From 0 to 1 year	30,172 deaths
From 1 to 19 years	7,061 deaths
From 20 to 39 years	3,951 deaths
From 40 to 59 years	2,724 deaths
From 60 years and over	26,410 deaths

The mortality in 1911, thus, was particularly large among infants and old persons. The principal cause of the infant mortality was enteritis due to the exceptional heat of the summer. Typhoid fever in 1911 increased, causing an excess of 1,324 deaths over the average of previous years. There were 5,283 deaths due to typhoid, or 133 per ten thousand inhabitants. The heat of the summer affecting the sources of drinking-water was one of the causes of the increase of typhoid. The place occupied by cancer in the annual total of deaths continues to increase regularly and disquietingly in France as elsewhere. Cancer in 1911 had more victims than all epidemic diseases put together (31,768 against 29,470). The tuberculosis situation is also disquieting. Tuberculosis causes one-eighth of the total of deaths especially among persons between 20 and 40 years of age. At these ages 44 out of 100 deaths are due to tuberculosis.

Jubilee of the French Society of Stomatology

The Société de stomatologie française, December 13, under the presidency of Professor Landouzy, dean of the Faculté de médecine de Paris, celebrated the twenty-fifth anniversary of its foundation.

Death of Dr. Louis Jullie

Dr. Louis Jullien, surgeon of the Maison de Saint-Lazare, has just died, aged 63, after a long and painful illness. His "Treatise on Venereal Diseases," which appeared about thirty years ago, was crowned by the Académie des Sciences, the Académie de médecine and the Faculté de médecine de Paris, and was translated into several foreign languages. When the first edition appeared and for a long time thereafter it was the best book on the subject.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 19, 1913.

Physicians and the Krankenkassen

The serious difficulty with the Krankenkassen under the new medical insurance legislation, when the present contracts expire January 1, shows some prospect of being settled. The medical departments of the German *universities have once* more made the attempt through three representatives of the Berlin faculty, Professors Kraus, Orth and Passow, to secure through the secretary of state for the interior, a higher interest of the government in the affairs of physicians than hitherto, and to urge the secretary to an attempt at reconciliation between the representatives of the medical profession and those of the insurance societies. A proposal for mediation was presented to-day by the government to the Leipsic League through the three university professors, and this proposal of the government will be taken up within a few hours by the management of the Leipsic League in order to determine its practicability. Without doubt concessions must be made by both sides in order to secure peace. I think there is no reason to doubt the readiness of the profession for this step, but it is doubtful whether the managers of the Leipsic League may not find the sacrifice which will be required of the medical profession too great. The next few days will decide the matter.

In comparison with this important matter, all the other information with regard to the approaching trouble, which has been received from various parts of Germany, is of minor importance. I will only mention as worthy of note that the Berlin Medical Society, the largest medical society in Germany, took the position the day before yesterday that the acceptance of a closed position as insurance physician is not *compatible with membership in the Berlin Medical Society.* According to this, a member who transgresses this resolution may be expelled from the society, which would discredit such a physician before the public. [The Leipsic League publishes weekly the list of "closed" positions, that is, those in which the insurance company offers terms altogether unfair and unworthy of the profession.]

Loan Offered for Purchase of Radium

A few days ago a conference took place in the department of the interior, under the presidency of the director of the Prussian Medical Bureau, of the representatives of numerous communes of greater Berlin, which was called at the request of Professor His, the director of the Radium Institute of the Charité. It was announced that certain insurance companies, the Landesversicherungsanstalten of Berlin and Brandenburg, had stated that they were ready to place at the disposal of the communes of greater Berlin a capital of $125,000 (500,000 marks), at a relatively low rate of interest, for the purchase of 2 grams of radio-active substances. The right is reserved to the communes participating to collect fees for radium treatment from patients who are able to pay. The representatives of the communes gave their consent, but the final decision naturally lies with the various communal corporations.

Small-Pox Research

The sum of $10,000 (50,000 marks) is to be appropriated by the Reichstag to the Imperial Health office for new investigations on small-pox, especially work on obtaining vaccine material from pure cultures according to the process published by Staff-Surgeon Fornet of this city. Other questions connected with small-pox are to be studied, such as the difference between the germ of human small-pox and that of vaccinia and of the small-pox of the horse and some other animals.

The Physicians of Germany in 1913

According to Professor Schwalbe's Medical Directory for Germany for 1914, the number of physicians in Germany in 1913 was 34,136. Compared with the population, 66,835,000, this gives 5.11 physicians per 10,000 inhabitants. About 100 physicians must be subtracted who practice at the health resorts in summer and other cities in winter, and therefore are reckoned twice. The number of physicians in Germany has increased since 1901 from a proportion of 4.92 to 5.11 per 10,000 inhabitants. In addition, there are 168 ship-surgeons and 163 physicians in the German colonies. About 500 physicians are lost to Germany annually through death and emigration. The number of licenses and the number of medical students is continually increasing. In 1916, 2,000 young physicians may be expected to enter the profession. The physicians are unusually numerous in the large cities, the proportion being 9.6 per 10,000 inhabitants in the large cities with a total of about 15,000,000 inhabitants as compared with 3.8 per 10,000 inhabitants in the rest of Germany with a total population of over 51,000,000. It is estimated that there are in greater Berlin 11.09 physicians per 10,000 inhabitants. Wiesbaden has 28 physicians per 10,000 inhabitants, while the town of Hamborn has only 2.3. The number of women practitioners is steadily increasing, there being 151 in 1912 *and 195 in 1913. They prefer to settle in the* large cities. A similar increase is observed in the number of specialists.

Deaths

Silas Weir Mitchell, eminent as [illegible] universally known as a writer of historica [illegible] ly with the times of the Revolutionary and [illegible] power in Philadelphia; honored for his attainments the world over; died at his home in Philadelphia, January 4, from influenza, aged within six weeks of 85.

He was born in Philadelphia, February 15, 1829, the son of Dr. John Kearsley and Matilda (Henry) Mitchell. His preliminary education was obtained in the grammar schools of Philadelphia and the University of Pennsylvania. He was obliged to leave the latter institution in his senior year on account of ill health. His medical course was taken at Jefferson Medical College, from which he graduated in the class of 1850. He at once commenced practicing in Philadelphia, devoting especial attention to physiologic subjects. In 1862 he entered the army as Assistant Surgeon of Volunteers and served until the end of the war, during this period doing valuable research work on gunshot wounds and the nervous disorders resulting therefrom.

Silas Weir Mitchell, 1829-1914

Early in his career his literary work commenced and the titles of his scientific articles alone number more than one hundred. About 1882, Dr. Mitchell entered on his career as a writer of fiction. Many of his works, such as, "In War Time," "Roland Blake" and "Westways," his latest production, dealt with the times of the Civil War, while the scene of "Hugh Wynne, Free Quaker" was set in Philadelphia during the Revolutionary War. In addition to these more ambitious works, Dr. Mitchell was a prolific writer of short stories, most of which dealt with some particular phase of neurology or neuropathic conditions. His writings, both scientific and imaginative, are fascinating; his style is polished, his diction finished.

Dr. Mitchell was a Fellow of the American Medical Association and Chairman of the Committee on Memorial to Medical Officers who died in the Civil War; a fellow and once president of the College of Physicians of Philadelphia; a member and president in 1908 of the American Neurological Association; a member of numerous scientific societies, both American and foreign; a trustee of the University of Pennsylvania and of the Carnegie Institute, Washington. He was the recipient of many honorary degrees from noted institutions. These include the honorary degree of Doctor of Medicine conferred on him by the University of Bologna and the degree of LL.D. conferred by Harvard University in 1886, by the University of Edinburgh in 1885, by Princeton University in 1896, by the University of Toronto in 1906 and by Jefferson Medical College in 1910.

Dr. Mitchell was the first to institute "the rest cure" for neurasthenia, which became a recognized and valuable method of treatment, and is known the world over by the name of its originator.

Despite his advanced age, Dr. Mitchell retained, almost to the last, his physical vigor, and to the last, his mental acumen and literary ability. His last published work, "Westways," which dealt with the Civil War and which appeared in 1913, shows no diminution of interest or flagging in the charm of his writing.

Alfred E. M. Purdy, M.D. College of Physicians and Surgeons, New York City, 1861; assistant surgeon of volunteers during the Civil War; from 1870 to 1880, surgeon and chief surgeon of the Metropolitan police of New York City; a member of the Medical Society of the State of New York and New York Academy of Medicine; one of the organizers and consulting surgeon of the Methodist Episcopal Hospital, Brooklyn; for many years editor of the *Medical Register;* died at his home in New York City, December 25, aged 75.

Thomas Edge Parke, M.D. University of Pennsylvania, Philadelphia, 1871; for five successive terms chief burgess of the borough of Downingtown, Pa.; a member of the Board of Health of Downingtown; president of the Dime Savings Bank at Chester County, and manager of the Chester County Hospital since its organization; died at his home in Downingtown, December 12, aged 62.

Frederick Gaston Kolb, M.D. Medico-Chirurgical College of Philadelphia, 1908; a native of Bahia, Brazil, and a specialist in bacteriology and pathology of Hamburg, Pa.; died at the home of his aunt in Welch, W. Va., about December 16, from heart disease, aged 28.

George W. Van Zandt, M.D. Rush Medical College, 1865; for several years a practitioner of Charlotte, Iowa, and later a banker of Chicago; died at his home in the latter city, December 21, aged 80.

Felipe Martinez, M.D. National Medical School, Mexico, 1870; surgeon in the Mexican Army for many years; died at his home in San Francisco, December 10, from myocarditis, aged 72.

Elijah Marion Heflin, M.D. Keokuk (Ia.) Medical College, 1892; of Calmar; a member of the Iowa State Medical Society; died in Grand Island, Neb., December 20, aged 51.

John Wesley Lanius, M.D. Missouri Medical College, St. Louis, 1869; of Palmyra, Mo.; died in the Levering Hospital, Hannibal, Mo., October 15, from arteriosclerosis, aged 71.

William James Kornegay, M.D. College of Physicians and Surgeons, Baltimore, 1893; died at his home in Mount Olive, N. C., Decembere 12, from cerebral hemorrhage, aged 47.

William H. Gowan, M.D. Detroit Medical College, 1875; proprietor of a sanatorium in Detroit; died at his home in that city, December 16, from heart disease, aged 59.

Thomas Judson Wright, M.D. George Washington University, Washington, D. C., 1870; Bellevue Hospital Medical College, 1871; of Churchland, Va.; died in St. Christopher's Hospital, Norfolk, Va., December 15, from complications resulting from a fracture of the hip, two weeks before, aged 68.

James Parker Stedman, M.D. Boston University, 1882; a member of the consulting staff of the Boston University Hospital and formerly president of the Brockton Medical Society and Massachusetts Surgical Society; died at his home in Brockton, December 24, aged 56.

Edward Wirt Lamoreaux, M.D. University of Michigan, Ann Arbor, 1879; for two years instructor in anatomy in his alma mater; died suddenly at his home in Battle Creek, from acute dilatation of the heart, December 18, aged 59.

George F. Parsons, M.D. College of Physicians and Surgeons, Chicago, 1886; for many years a practitioner of Chicago; died at the home of his daughter in Peoria, Ill., December 29, from cerebral hemorrhage.

Arthur Barnard Brown, M.D. Tulane University, New Orleans, 1901; a Fellow of the American Medical Association and secretary of the Louisiana State Board of Medical Examiners since 1910; vice-president in 1911 and president in 1912 of the National Federation of State Board Examiners; untiring in his work for the elevation of standards for admission to the practice of medicine; died at his home in New Orleans, December 19, as the result of a nervous breakdown, aged 34.

Edgar Doak Capps, M.D. College of Physicians and Surgeons, New York City, 1891; a Fellow of the American Medical Association; professor of diseases of the brain and nervous system in Fort Worth University; oculist, aurist, laryngologist and neurologist, and secretary and treasurer of the Protestant Private Sanitarium; formerly city physician of Forth Worth and one of the editors of the *Texas Medical News;* died suddenly at his home in Fort Worth, December 19, aged 46.

Jesse Franklin Frisbie, M.D. Harvard Medical School, 1861; a member of the Massachusetts Medical Society; a member of the city council of Newton in 1882 and for five years a member of the Newton Board of Health; from 1862 to 1865 acting assistant surgeon, U. S. N.; founder and once president of the Newton Natural History Society and a member of the staff of the Newton Hospital; died at his home, December 17, aged 75.

Paul Arthur Soelberg, M.D. College of Physicians and Surgeons, Chicago, 1910; a Fellow of the American Medical Association; a member of the resident staff of Wisconsin State Hospital, Mendota, Wis.; assistant superintendent of the Valmora Industrial Sanatorium, Watrous, N. Mex.; died at the home of his parents in Granite Falls, Minn., December 16, from exhaustion due to a suppurative appendicitis which was inoperable, aged 28.

Charles Sumner Little, M.D. Johns Hopkins University, Baltimore, Md., 1899; clinical lecturer on pathology and clinical medicine in the medical department of Purdue University; pathologist to the Indianapolis City Hospital and physician to the Day Nursery; for the last six years in charge of the S. W. Little Coal Companies' Mines at Petersburg, Ind.; died at his home in that place, December 13, from heart disease, aged 40.

Edgar Martindale Hermance, M.D. College of Physicians and Surgeons, New York City, 1878; a member of the Medical Society of the State of New York; first commissioner of public safety of Yonkers; a member of the Board of Education and president of the Board of Health; consulting physician to St. Joseph's Hospital; died at his home, December 22, from pneumonia, aged 59.

Michael A. Jordon, M.D. Eclectic Medical Institute, Cincinnati, 1878; Medical College of Ohio, Cincinnati, 1879; of Logansport, Ind.; a director in several banks of the city; coroner of Cass County from 1884 to 1888; died in Johns Hopkins Hospital, Baltimore, December 13, a day after an operation for malignant disease of the stomach, aged 58.

Francis Henry O'Connor, M.D. Long Island College Hospital, Brooklyn, 1898; a member of the Vermont State Medical Society and a member of the staff of the Brattleboro Memorial Hospital since its organization; local surgeon of the Boston and Maine Railroad; died suddenly at his home in Brattleboro, December 26, from angina pectoris, aged 44.

William H. Stearns, M.D. University of Southern California, Los Angeles, 1899; a member of the Board of Education in Los Angeles, from 1897 to 1898; a member of the staff of the Pacific Electric Railroad and chief medical examiner of the Prudential Life Insurance Company; died at his home, December 16, from pneumonia, aged 44.

Waller Morton Holladay, M.D. Hospital College of Medicine, Louisville, 1885; a Fellow of the American Medical Association; an alumnus of Hampton-Sidney College, Va., and for more than ten years college physician and supervisor for the Hampton district; died at his home in Hampton-Sidney, December 21, from nephritis, aged 49.

Bartholomew John Leahy, M.D. Rush Medical College, 1893; for several terms president of the Dixon-Dakota County (Neb.) Medical Society; died at his home in Jackson, December 17, from angina pectoris and chronic nephritis, aged 43.

Francis M. Pickens, M.D. Rush Medical College, 1870; one of the oldest practitioners of Winfield, Kan.; a veteran of the Civil War; died in his office in Winfield, December 17, from accidental gas asphyxiation, aged 72.

Hartwell Isaac Williams, M.D. University of Mobile, Ala., 1887; a member of the Medical Association of the State of Alabama, died at his home in Columbiana, December 21, from rheumatism, aged 60.

William Samuel Jennings, M.D. College of Physicians and Surgeons, Baltimore, 1885; a life-long resident of the Edisto section of Orangeburg County, S. C., and an esteemed practitioner of Cordova; died at the home of his brother in Orangeburg, December 7, from disease of the kidney, aged 55.

Thomas Alvin Edwards, M.D. University of Louisville (Ky.), 1881; formerly a member of the faculty of Beaumont Hospital Medical College, St. Louis, Mo.; for ten years an invalid as the result of paralysis; died at his home in St. Louis, December 22, from cerebral hemorrhage, aged 57.

Francis Aloysius McManus, M.D. College of Physicians and Surgeons, San Francisco, 1911; aged 35; formerly of Chico, Cal.; was found dead on the Southern Pacific tracks near Crockett, Cal., December 15, as the result of injuries received from being struck by a train.

William W. Kerlin, M.D. Pennsylvania Medical College, Gettysburg, 1857; surgeon of volunteers during the Civil War; formerly of Lena, Ill., and for the last thirty years a practitioner of Storm Lake, Iowa; died at his home, December 20, aged 79.

Marriages

George Bilton Lawson, M.D., Roanoke, Va., to Miss Julia Kern of Indianapolis, at her summer home, Kern Cliffe, Botetorte County, Va., December 25.

John Hanley O'Connell, M.D., Topeka, Kan., to Miss Evelyn Fiero of Dallas City, Ill., at Carthage, Ill., December 22.

Wilson Pendleton, M.D., Aberdeen, N. C., to Miss Myrtle Virginia Smith of Charlottesville, Va., December 20.

Herbert Gunn, M.D., Mill Valley, Cal., to Miss Eleanor Ammon of Newcastle, Cal., December 22.

Albert S. Steiner, M.D., to Mrs. Etta V. Houts, both of St. Louis, at Chicago, December 6.

Stanley M. Hall, M.D., Clarence, Mo., to Miss Louise Linville of Edina, Mo., December 22.

Ira Mason Smith, M.D., Newport, Va., to Miss Eloise Wyatt of Richmond, Va., recently.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SODIUM ACID PHOSPHATE ADMITTED TO NEW AND NONOFFICIAL REMEDIES

Report of the Council on Pharmacy and Chemistry

The report which appears below was adopted by the Council and its publication authorized. Having adopted the standards proposed by the Association's laboratory, sodium acid phosphate was admitted to New and Nonofficial Remedies and the description of it appears in the New and Nonofficial Remedies Department of this issue.

W. A. Puckner, Secretary.

A referee of the Council presented the following report by the American Medical Association's Chemical Laboratory of an examination of sodium acid phosphate as found on the market along with a description of the product giving tests and standards proposed for its control:

Laboratory Report

The researches of Hanzlik and Collins (*Arch. Int. Med.* 1913, xii, 578; The Journal A. M. A., Jan. 3, 1914, p. 43) have definitely established that the bactericidal action of hexamethylenamin is dependent on its decomposition into formaldehyd, that its value as a urinary disinfectant is dependent on and proportional to the acidity of the urine and that the administration of sodium acid phosphate with hexamethylenamin renders the urine acid. Hence it appears probable that the use of this salt in medicine will increase.

As previous experience has emphasized the unreliability of little used medicaments, the laboratory deemed it important that the market supply of this substance be studied in order that those who use it could take steps to obtain a reliable product for their prescriptions

While the widely used official sodium phosphate may be obtained of exceptional purity, an examination of the market supply of sodium acid phosphate shows that it is decidedly variable and much less pure although not seriously impure After consultation with manufacturers, to whom the laboratory at this time expresses its appreciation for the information given, and having in view the conditions surrounding the manufacture of little used drugs, the following standards for sodium acid phosphate are believed to be fair both to those who make it and to those who employ it in their practice·

Sodium acid phosphate should contain not less than 82 per cent of anhydrous sodium acid phosphate, should not contain more than 15 per cent of water of hydration, nor more than 1 per cent of hydrated sodium sulphate and should be reasonably free from arsenic and heavy metals

The examination included the products sold by Mallinckrodt Chemical Works, *Merck and Co*, *Powers Weightman Rosengarten Company* and E R Squibb and Sons

The product of the Mallinckrodt Chemical Works and that of the Powers Weightman Rosengarten Company conformed in all particulars to the proposed tests The salt sold under the Merck label lost about 21 5 per cent of its weight on drying and contained sodium acid phosphate equivalent to but about 76 per cent of the anhydrous salt In other particulars it conformed to the tests proposed The Squibb specimen evidently contained an appreciable proportion of secondary sodium phosphate In other particulars it conformed to the standards proposed

Based on these standards, a description of sodium acid phosphate is herewith submitted which would be suitable for insertion with New and Nonofficial Remedies, should the Council decide to give recognition to this salt

RECOMMENDATION OF THE REFEREE

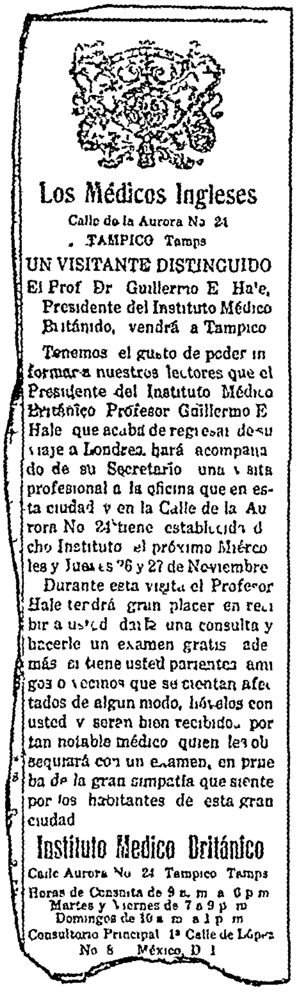
Your referee commends the timely report of the Association's chemists He recommends that publication of this report be authorized, that the submitted description of sodium acid phosphate be admitted to New and Nonofficial Remedies, and that sodium acid phosphate, M C W, and sodium acid phosphate, P W R, be listed as non proprietary preparations which comply with the standards adopted

W. H HALE, QUACK AND JAIL BIRD

"Can you give me any information about one Dr William E Hale, who is at the head of many so called 'British Medical Institutes' in the United States and Mexico? I understand that he was in the Colorado penitentiary for two years and was arrested in New Orleans and jumped his bail, coming to Mexico"
A W PARSONS, M D,
Tampico, Mexico

From the advertisements which Dr Parsons sends, one of which we reproduce, there is little doubt that "Guillermo E Hale" is the notorious quack, William H Hale Hale claims to be a graduate of the American Eclectic College This was a fraudulent concern and has been out of existence for years From 1883 until 1891 Hale and one G W Van Vleck were running a diploma mill in Cincinnati—the "Medical University of Ohio" Diplomas were sold for from $10 to $500 apiece In 1891 Van Vleck, who was 'president," "dean" and "faculty" of this notorious fraud, was arrested and put on trial for felony Hale fled the state and went to Denver, where he posed as a Chinese physician, "Dr Gun Wa" While there he was indicted in the United States District Court for fraud After the indictment, Hale fled to England and operated a fraudulent catarrh and deafness cure He was indicted in Liverpool, England, tried and sentenced to eighteen months in the penitentiary—and served it

He returned to the United States after the expiration of his sentence, was arrested in New York under the Denver indictment, and was sentenced to serve eighteen months in the penitentiary—and served it After his release he seems to have gone to New York, for in 1895 he was indicted in connection with another man for grand larceny It seems that Hale and his partner in fraud convinced a victim that he was suffering from serious kidney disease which would soon cause madness or death unless he took Hale's "radium cure," for which $1,500 was asked Hale pleaded guilty to this indictment and served eight months in the penitentiary at Blackwell's Island, N Y



Los Médicos Ingleses

Calle de la Aurora No 24
TAMPICO Tamps

UN VISITANTE DISTINGUIDO

El Prof Dr Guillermo E Hale, Presidente del Instituto Médico Británido, vendrá a Tampico

Tenemos el gusto de poder informar a nuestros lectores que el Presidente del Instituto Médico Británico Profesor Guillermo E Hale que acaba de regresar de su viaje a Londres hará acompañado de su Secretario una visita profesional a la oficina que en esta ciudad y en la Calle de la Aurora No 24 tiene establecida dicho Instituto el próximo Miércoles y Jueves 26 y 27 de Noviembre

Durante esta visita el Profesor Hale tendrá gran placer en recibir a usted darle una consulta y hacerle un examen gratis además si tiene usted parientes amigos o vecinos que se sientan afectados de algun modo, llévelos con usted y serán bien recibidos por tan notable médico quien les obsequiará con un examen, en prueba de la gran simpatía que siente por los habitantes de esta gran ciudad

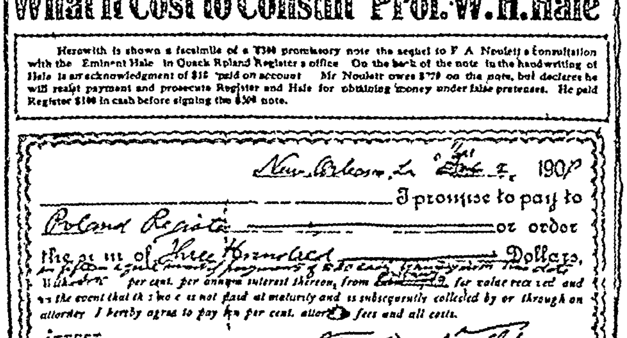
Instituto Medico Británico

Calle Aurora No 24 Tampico Tamps
Horas de Consulta de 9 a. m a 6 p m
Martes y Viernes de 7 a 9 p m
Domingos de 10 a m a 1 p m
Consultorio Principal 1ª Calle de López
No 8 México, D F

Fig 1—Photographic reproduction (reduced) of an advertisement in a Tampico Mexico paper of the British Medical Institute announcing the alleged visit of the distinguished "Professor" Hale This same swindle was worked extensively in the United States until the federal authorities put a stop to it

In 1900 Hale was in Jackson, Mich, where he was running what he called the "British Medical Institute" In the fall of 1902 he was arrested in Jackson for violating the medical practice act Through a technicality this case was non suited, but a warrant was sworn out within thirty minutes of Hale's release, in the mean time, however, Hale had fled This closed the "British Medical Institute"

From that time Hale seems to have been an itinerant His method was to make the rounds of various cities, his coming being advertised by local quacks, who sent letters to past and prospective victims These letters stated that "Professor" Hale or Doctor Hale, "one of the greatest living specialists in nervous, chronic and special diseases" is on a visit from London and will be pleased to see the patient in consultation with the man who sent out the letter The scheme was to obtain money



What It Cost to Consult "Prof. W. H. Hale"

Herewith is shown a facsimile of a $300 promissory note the sequel to F A Noulett's consultation with the Eminent Hale in Quack Roland Register's office On the back of the note in the handwriting of Hale is an acknowledgment of $15 paid on account Mr Noulett owes $270 on the note, but declares he will resist payment and prosecute Register and Hale for obtaining money under false pretenses. He paid Register $100 in cash before signing the $300 note.

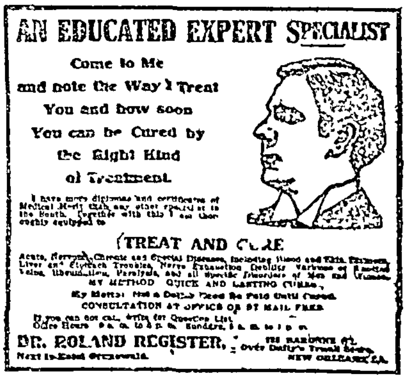
New Orleans, La 1st 190
I promise to pay to
Roland Register or order
the sum of Three Hundred Dollars,
per cent. per annum interest thereon, from for value received and in the event that this note is not paid at maturity and is subsequently collected by or through an attorney I hereby agree to pay ten per cent. attorney's fees and all costs.
ATTEST
F. A. Noulett

Fig 2—Photographic reproduction from the New Orleans *Morning World* indicating what it cost one individual to consult "Professor Hale It will be noticed that the promissory note is made out to Dr Roland Register who *at that time* was acting as stalking horse for Hale

from these victims by this misrepresentation.[1] It seemed to be successful until it was tried in New Orleans. In this city the federal authorities got after Hale and his accomplices (A. S. Dyar and Roland Register) and in 1910 they were *found guilty, heavily fined and sentenced to the penitentiary.* Hale and his brother quacks appealed and the appellate court granted a new trial on the ground that the lower court erred in admitting the damning evidence against Hale.

Now it seems Hale is swindling the gullible in Mexico, and has resurrected his "British Medical Institute" and is now conducting the same fraud under the term, "Instituto Médico Británico."

Quackery is international in its scope. We trust that our southern neighbors will find it feasible to put "El Prof. Dr. Guillermo E. Hale Presidente del Instituto Médico Británico" where he can be kept at state expense. It will be much cheaper for the Mexican public.



AN EDUCATED EXPERT SPECIALIST

Come to Me
and note the Way I Treat
You and how soon
You can be Cured by
the Right Kind
of Treatment.

TREAT AND CURE

MY METHOD QUICK AND LASTING CURES.

CONSULTATION AT OFFICE OR BY MAIL FREE

DR. ROLAND REGISTER,

NEW ORLEANS, LA.

Fig. 3—A greatly reduced reproduction of an advertisement of Roland Register An account of this man's arrest and conviction appears in "Nostrums and Quackery."

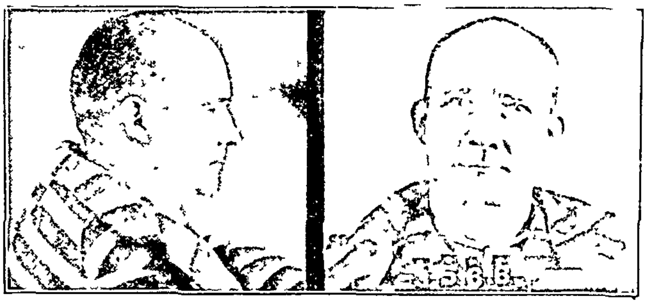


Fig. 4—William H. Hale—convict No 3566; from the records of the Illinois State Penitentiary at Joliet. At this time (1894-5) Hale was "serving time" as a United States prisoner from Colorado, for "using the United States mails under a fraudulent name in a scheme to defraud." In addition to the Bertillon record we find the following remarks regarding this prisoner: "Mole to the rear and top of right ear; small scar on right side of neck."

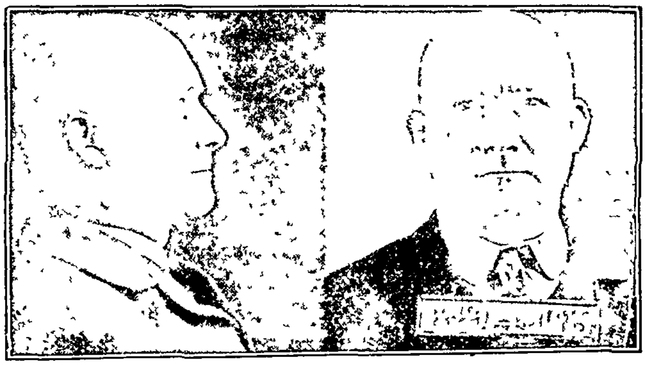


Fig. 5—William H. Hale as Convict K9415. Taken March 24, 1905, at the New York County Penitentiary, Blackwell's Island, N. Y. Hale is about ten years older in this picture than in the one taken at Joliet Penitentiary.

THE RICHIE MORPHIN CURE

In his series of articles on the "Great American Fraud" which ran a few years ago in *Collier's*, Mr. Samuel Hopkins Adams devoted one chapter to "The Scavengers." This appropriate title he applied to those scoundrels who, under the guise *of selling mail-order "cures" for the morphin habit,* fostered the slavery of the drug habit for their own profit by substituting for the morphin addiction an addiction to their villainous mixtures of opiates. One of the concerns described by Mr. Adams in this chapter was the Richie Company, Brooklyn, N. Y., of which he said:

> "Surrounded by the best religious influences, in the Presbyterian Building at 156 Fifth Avenue, New York City, the Rev. W. N. Richie, D.D., holds forth. Here, in pious words, he invokes the aid of Heaven upon his transactions. He has another address, 105 St. James Place, Brooklyn, where he does the work of Hell. By his catch-word, 'for the sake of humanity,' he has inveigled a numbe [illegible] *otherwise intelligent gentlemen into* [illegible] with their names. As high-minded a man as the late Rev. John Hall was duped, and his picture is now used on the cover of one of the Richie circulars. *Rev. Dr. Burrell,* the late Rev. S. S. Baldwin, Rev. C. A. Stoddard, and the editors of the *Independent, Christian Work* and other religious journals appear as endorsers of the Richie 'cure.' The 'literature' gotten out by the reverend exploiter reeks of a smug pseudopiety. He recommends his nostrum as a 'Painless cure for all drug habits. Only cure endorsed by the secretaries of Foreign Mission Boards, Interdenominational Committee, etc.' He claims that it will cause 'actual destruction of the desire for narcotics.' On his letter-head appear conspicuously the words, 'Supports better than the drug. No substitute.' Mark that 'No substitute.' This means that in the remedy no drug is substituted for the one used by the victim. It is a lie. The Rev. Dr. Richie knows it for a lie. So well does he know it that his employees dare not back it up in their correspondence. After procuring a sample of the output, I wrote, under an assumed name, saying that it produced the same effect as morphin, and asking if it contained any of that drug. Here is the reply: 'There would be no special advantage in our denying or asserting the use of morphin or opium in the remedy.' *'No special use,' indeed! Their sample, on analysis,* contains 2.12 grains of crystallized morphin per dose.
>
> "I am invited to *cure* myself by taking this stuff *four* times a day. If I lived through the first dose, the second would kill me, or any of my readers who is not a morphin fiend The ordinary dose is one-eighth of a grain, heavy dose one-fourth of a grain. But the Richie Company supposes I can stand more, so they endeavor to foist their concoction on me in place of my supposed addiction. How does this comport with their 'No substitution' claim? This and other questions I put in writing to the Rev. Dr. Richie. He has not answered it. His silence is not surprising. It is the part of wisdom—or, at least, caution. I'm not certain just how to place this reverend gentleman. It may be that he has been fooled into believing in the 'Richie cure,' and that he is an exemplar of a type of asininity so baneful and deadly that its possessor ought, for the sake of the public, to be permanently established in an asylum for the dangerously imbecile. But I think not. I think he cannot be ignorant of his traffic in ruined lives. This alternative implies flat criminality. Nor has the divinity doctor always eluded the clutch of the law. He has been convicted and fined for practicing medicine without a license."

The foregoing appeared in *Collier's* Sept. 22, 1906. On Jan. 5, 1909, June 5, 1909 and March 15, 1910, the Richie Company shipped from the state of New York into the District of Columbia three consignments of their villainous "cure." Samples from the different consignments were analyzed by the Bureau of Chemistry of the Department of Agriculture and the federal chemists reported that the product consisted of a watery-alcoholic solution of morphin sulphate, glycerin, pepsin, salicylic acid and undetermined matter. The first shipment consisted of five bottles which contained morphin sulphate in amounts varying from 14.2 grains to the fluidounce to 9.2 grains to the fluidounce. The ten bottles in the second shipment contained this same drug in amounts varying from 12.35 grains to 7.21 grains to the fluidounce. The third shipment of ten bottles also contained morphin sulphate, varying in amounts from 15.85 to 8.22 grains to the fluidounce.

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[1] The scheme is fully described in THE JOURNAL'S article on "Hale, Dyar and Register," that appeared Oct. 15, 1910, and has been reprinted in the second edition of "Nostrums and Quackery."

On March 14, 1911, more than two years after the first shipment was made, the United States Attorney for the Eastern District of New York, acting on the report of the Secretary of Agriculture, filed an information against William N. Richie and Grant N. Richie, who were copartners under the name "Richie Company." The product was declared misbranded because the bottles and packages did not bear a statement on the label of the quantity and proportion of morphin.

On March 18, 1911, the two Richies entered a plea of "not guilty" and three months later filed a demurrer. The court overruled the demurrer and on April 2, 1913, William N. Richie and Grant N. Richie withdrew their former plea of "not guilty" and entered a plea of "guilty."

And what punishment was meted out to these two men, who were engaged in a business compared with which housebreaking and bankwrecking are respectable? None at all! The court suspended sentence.—(*Notice of Judgment No. 2554, issued Oct. 31, 1913.*)

Hard to Believe

P. D. & Co.'s monologist was in the editorial office the other day chanting the Phylacogen Magnificat, "Praise it and magnify it forever." In the course of his eulogy he stated that a correct diagnosis is essential to the successful use of Phylacogen and that in the practice of those physicians who have reported their cases to P. D. there have been but 2 per cent. of failures. We believe that it is within the bounds of cosmic possibilities that there may exist a remedy so remarkably efficient that it will cure all but 2 per cent. of cases. It is true that none of our highly prized specifics have been so efficacious even in fields far more restricted than that assigned to Phylacogen; still it is possible to conceive of such a remedy. When, however, we contemplate physicians making 98 per cent. correct diagnoses we feel that we are in view of what Kipling calls "The True Romance." We have at times believed in Dr. Cook, Reform Politics and the Pittsburgh Pirates, but when we tried to conceive of diagnosers with a batting average of 98 per cent., our editorial believer stripped its gears.—*The Mirror*, the official organ of the Fayette County (Pennsylvania) Medical Society.

Correspondence

The Better Control of Ophthalmia Neonatorum

To the Editor:—A recent communication on this subject in The Journal (Dec. 13, 1913, p. 2177) criticizes the proposed gratuitous distribution of a prophylactic for the prevention of ophthalmia neonatorum as recommended by the Committee on the Prevention of Blindness of the Council on Health and Public Instruction. The writer of the communication, Dr. Stotter of Cleveland, thinks that undue restrictions are placed on the midwife as compared with the physician. A careful reading of this bill as it appears in The Journal for June 21, 1913, p. 2004, will show that the responsibility for reporting the existence of a birth infection of the eyes of a new-born infant is placed impartially on the responsible person in charge, whether physician, midwife, nurse, relative or whomsoever may have been in charge of the mother and child. As Dr. Stotter has evidently misunderstood the purport of the bill, it is not unlikely that others who have not given the matter careful consideration may fail to understand the reasons for each of its suggested provisions, and as these were reached only after careful consideration and extended conference with ophthalmologists, obstetricians, sanitarians and others, a brief explanation concerning them may be helpful in securing the judicious criticism which it is desired to elicit. It will be remembered that the bill is purely tentative and is published as a basis only for future legislation. While criticism is invited, therefore, it should be on the provisions actually found in the bill and not on those which it is supposed to contain.

After the essential features of the bill were determined on it was finally submitted to counsel employed by the American Medical Association in order that the phraseology might be conformable to law.

The title was found to be a matter of first importance and must embody the substance of the bill, as otherwise the validity of the law itself might be attacked.

In order to avoid ambiguity a definition of ophthalmia neonatorum was found to be necessary. Cases which had been brought to trial in Massachusetts were contested for the reason that the infecting micro-organism in these cases was not the gonococcus, and it was claimed that the resultant inflammation did not constitute ophthalmia neonatorum. If it were always insisted on that a microscopic examination be made to determine the nature of the disease, no conviction could be obtained, for if only the gonococcic cases were reported the stigma which this would carry would make it impossible to secure any reports whatever. To require this examination as a preliminary to each report would be most undesirable, moreover, and to limit ophthalmia neonatorum to those cases of gonococcic origin would be unscientific and unwarranted by the facts, for it is not only the gonococcic cases that are the serious ones. While the large majority of other infections do not result in loss of sight, the pneumococcus, the Klebs-Löffler bacillus and other organisms which are occasionally present are often equally dangerous. It is wise to emphasize the fact that many cases are innocent. When all cases are brought promptly to the attention of the department of public health it makes possible the securing of immediate treatment for those which urgently require it, whatever may be their origin.

The responsibility does not rest entirely on the attendant at the birth of a child. The health boards have many duties, and that of protecting the eyes of the new-born is one. It must be exacted, therefore, that the officer in charge of the department of health shall take such action as will secure the report in order that he may be enabled when necessary to take the proper steps to obtain for the child when infected prompt and adequate treatment. This is equally true of the state department of public health. Rules and regulations must be promulgated for the needs of the local health officers, and it must be made easy to use a prophylactic on the part of the physician by having it placed in his hands together with advice as to the manner in which it should be used and the necessity for its employment.

It is necessary periodically to print and publish such advice and information "lest we forget." After a peculiarly disastrous case an obstetrician will usually for a long time be careful in his procedures and in his use of a prophylactic. This is by no means always so. Cases have been brought to the knowledge of the Commission for the Blind in Massachusetts in which within a comparatively short time a second child has become infected in the same family and the second child has become blind. But even if the physician in charge never has another infected case he will have added his quota to the blind man's world and the lesson will have been lost.

We all need constant reminders. This is the special value of having placed on the birth-report the inquiries, "Have you used a prophylactic? If not, why?" An answer to these questions may not legally be insisted on, and an enforced answer cannot be secured. The obstetrician may decline to answer if he chooses, but whenever he makes the report of a birth the danger of birth infections to the eyes of the infant will be impressed on his mind, and the wisdom of using a prophylactic at least in all suitable cases will be emphasized; but if he fails to answer these questions or if his answer is in the negative without adequate reason and the child shall have become infected and in consequence blind, it is presumptive evidence that an important safeguard has been omitted and would seriously prejudice the interests of the physician in the event of a suit for malpractice being instituted. For his own protection, therefore, it is wise not only that he should use a prophylactic but also that he should report having done so. The obstetrician is justified in a case in which he is morally certain that there can be no possibility of infection in omitting the use of a silver salt in the child's eyes, but in the light of the fact that the irritation which follows is so simple and the protection in a large number of cases so great there is no doubt whatever that a majority of obstetricians prefer its routine employment It is especially desirable when it is given gratuitously that it should be of an absolutely standard strength—that it should be put up in light proof ampules which are air tight, and from which the solution cannot evaporate—which is easily carried, inexpensive, and which can be used without danger of injuring the eye of the infant Such ampules are now put up by the health department of the state of New York, and last year more than 17,000 of the outfits together with literature in English, German, Italian and Polish were distributed advising midwives and others of the dangers of birth infections to the sight, the necessity of using prophylaxis, and of reporting cases to the board of health

The reason for the gratuitous distribution of the prophylactic is not to save cost to the obstetrician, as the expense in any event is trifling, but in the first place to prevent accidents, as cases have been known in which errors on the part of the physician in writing the prescription, or the pharmacist in putting it up, have resulted in securing a preparation of dangerous strength—or because through the effect of light the solution has lost all protective value—or because, as often happens, in time of necessity the obstetrician finds that the cork has been lost from the bottle and that it is dry, and therefore is not used—or because the bottle is not in the satchel—or because in an ordinary bottle it becomes easily infected and is no longer clean, because the dropper is not clean—because, for a dozen other reasons, the simplest and safest solution to be used is the standard preparation which is issued at little cost from the laboratory of the health department F Park Lewis, M D, Buffalo, N Y

[A proof of the foregoing was submitted to Dr Stotter, who replies]

To the Editor —While thoroughly in sympathy with all that is being done by my esteemed colleague, Dr F Park Lewis of Buffalo, for the better control of ophthalmia neonatorum, I beg to insist that I have not, as is suggested, misunderstood the purpose of the tentative bill heretofore published, in claiming that undue restrictions are placed on the midwife as compared with the physician A careful reading of this bill (Section VI) shows that while a money fine is imposed on all persons responsible for failing to report the existence of infection, the ultimate punishment provided for the midwife is revocation of her license No such or similar punishment is provided for the physician Should not the physician, much better qualified than the midwife, pay the forfeit for any such neglect—"lest we forget?"

In Volume XX of *Transactions of the American Association of Obstetricians and Gynecologists*, Dr Lewis refers to two essential factors in the prevention of blindness first, more enlightenment, a broader, more general, popular knowledge of the causes and the measures to be employed, and second, perfectly organized and coordinated effort in securing its control He quotes the distinguished Cuban, Dr Santos Fernandez, as saying, "The important thing is to bring before the public mind by means of constant propaganda, a knowledge of the danger to a recently born child at all affected as to the eyes and to call the attention of the family to the facilities which the authorities will furnish them to guard against blindness" (As a matter of fact, *do* our local associations favor *full* publicity in this matter?)

To this I would add such other means as public lectures, and the distribution of printed instructions to those who consult our free dispensaries and clinics, without making any secret of the unfortunate truth with its due consequences I recall a saying by Fuchs of Vienna to a delegation that called to intercede for a medical student who had failed in his question in chief—the chemical and physiologic action of silver salts in ophthalmia of the newly born "I might overlook a wrong diagnosis of glaucoma," said Dr. Fuchs, "and any mistake you propose for the treatment of a diseased eye, but you would be unworthy of your high calling were you to lose a single eye from ophthalmia neonatorum"

James Stotter, M D, Cleveland

Antiquity of the Patent-Medicine Plague

To the Editor.—To show the antiquity of the patent medicine plague I beg to call your attention to the following extract from a letter of Sylvester Graham, written at Providence, March 6, 1834, and published in the *Graham Journal of Health and Longevity*, Boston, 1837, i, 116

"'Stop! Stop! sir!' says the mercenary vendor of specifics and patent medicines, 'look at the wonders which have been performed by the Panacea, the Catholicon, the Hygeian Medicine, etc, etc See the long list of certificates in the newspapers!' Yes, I see them, and my heart aches for suffering and outraged humanity! Go ask the graveyards for their certificates! Were there a tongue to tell the secrets of the 'narrow house,' the ears of the specific mongers would tingle with a revelation infinitely more horrible than that which the ghost of Hamlet's father dared not to tell to ears of flesh and blood I know that in the thousands and thousands of cases where these specifics are used, it sometimes happens that an individual is apparently benefited by them, but for this one instance hundreds and thousands are hurried to the grave The single apparent cure is trumpeted to the world, but the grave in everlasting silence swallows up its hecatombs of human sacrifices It may be thought that I express myself too strongly on this subject; but the sufferings and devastation which I have seen resulting from these all pervading scourges of the world, wake up the fervent sympathies of my soul and constrain me to speak out . The paltry jargon of these books and advertisements of Hygeian Medicine about the 'impurity of the blood' etc, etc is a tissue of the most arrant misrepresentation falsehood and humbugging that ever deceived mankind" Graham Lusk, New York

Testimonial-Giving Seventy-Five Years Ago

To the Editor —That the attitude of the medical profession toward patent medicines and panaceas has changed for the better in the last three quarters of a century is evidenced by the following, quoted in the *Medico Chirurgical Review* (London, England) for October, 1836, preceded by these words from the editor "We were utterly astonished to find an impudent PANACEA bolstered up with the names and certificates of some of the first authorities in the medical profession of the United States! We were thunderstruck on perusing such documents as the following

'From Doctor N Chapman, *Professor of the Institutes and Practice of Physics and Clinical Practice in the University of Pennsylvania, President of the Academy of Medicine, Philadelphia, etc*

' 'I have within the last two years had an opportunity of seeing several cases of inveterate ulcers, which having resisted previously the regular modes of treatment, were healed by the use of Swain's PANACEA, and I do believe, from what I have seen, that it will prove an important remedy in scrofulous, venereal and mercurial diseases

"'N Chapman, M D'

"From Doctor W Gibson, *Professor of Surgery in the University of Pennsylvania, Surgeon and Clinical Lecturer to the Almshouse, Infirmary, etc*

"'I have employed the PANACEA of Mr Swain, in numerous instances within the last three years, and have always found it extremely efficacious, especially in secondary syphilis and in mercurial disease I have no hesitation in pronouncing it a medicine of inestimable value

"'W Gibson, M D'

"From Doctor Valentine Mott, *Professor of Surgery in the University of New York, Surgeon to the New York Hospital, etc*

"'I have repeatedly used Swain's PANACEA, both in the Hospital and in private practice, and have always found it to be a valuable medicine in chronic, syphilitic and scrofulous complaints, and in obstinate cutaneous affections

"'Valentine Mott, M D'

"From Doctor William P. Dewees, *Adjunct Professor of Midwifery in the University of Pennsylvania, etc.*

"'I have much pleasure in saying I have witnessed the most decided and happy effects in several instances of inveterate disease from Mr. Swain's PANACEA, where other remedies had failed—one that of Mrs. Brown.

"'Wm. P. Dewees, M.D.'"

It goes without saying that these men were in the very forefront of the medical profession in America three-quarters of a century ago, and this fact evoked the following closing paragraph from the editor of the *Medico-Chirurgical Review:*

"*Eheu jam satis!* We are mortified and grieved, beyond measure, to find professional propriety (to give it no other name) at so low an ebb among our brethren in America! This admonition from Europe will surely rouse the faculty of the United States to some sense of the duty they owe to their brethren throughout the world."

CHARLES B. JOHNSON, M.D., Champaign, Ill.

[COMMENT: Times change and we change with them! In 1836 British physicians were astounded at the spectacle of American medical men giving testimonials for nostrums. In 1914 American medical men view with astonishment and dismay the tendency on the part of European physicians, British and Continental, to laud proprietary remedies of the most evidently fraudulent type. Testimonial-giving by physicians in the United States is practically a thing of the past; in Great Britain and on the Continent it is so common as to arouse no comment.—ED.]

Imported Medication and Dr. Stelwagon's Formula

To the Editor:—Apropos of the remarks on "Imported Medication" in the Therapeutics Department (THE JOURNAL, Dec. 13, 1913, p. 2159), it may prove of interest to your readers to compare the prescription headed "A Formula for Combined Stomachic and Laxative Effects," with a startlingly similar prescription given in "Essentials of Diseases of the Skin," by Henry W. Stelwagon, M.D., Ph.D., clinical professor of dermatology in the Jefferson Medical College (Philadelphia, W. B. Saunders Company, 1900, p. 118). In the paragraph describing the constitutional treatment when indicated in acne the author states that "in dyspepsia and constipation, bitter tonics, alkalies, acids, pepsin, saline and vegetable laxatives are variously prescribed. Special mention may be made of the following:

"℞	Ext. rhamni pursh. fl.	fʒ ii ʒiv
	Tinct. nucis vom.	fʒ iii
	Elix. calisayae, q. s. ad	f℥ iii

M. Sig.: ʒi t. i. d."

Compare this with the formula which you state was "copied verbatin from the *Paris médical*":

℞	Fluidextracti rhamni purshianae,	ʒ v	(20 grammes)
	Tincture nucis vomicae,	ʒ ss	(2 grammes)
	Aquae laurocerasi,		
	Syrupi,	āā ℥ ss	(15 grammes)
	Aquae destillatae,	℥ iii	(100 grammes)

M. Sig.: Three or four teaspoonfuls daily.

In other words, one of our leading dermatologists was recommending practically the same formula not less than thirteen years *ago. So much for the "newness" of the prescription*, as far as its really active ingredients are concerned, namely, the cascara and nux vomica.

Dr. Stelwagon's mixture is not exactly pleasant to take, and the suggestion you make about giving cascara and nux vomica separately is a good one. Still, many patients, in my experience, do not find the mixture much, if at all, more unpleasant to take than the separately administered drugs, preferring one bitter dose to two or three less bitter ones.

Since 1903, first in general medical work and later in eye, ear, nose and throat practice, I have used this formula for the indications outlined by Dr. Stelwagon, with extremely gratifying results, its bitter taste to the contrary notwithstanding. In many patients, particularly women, referred for examination of eyes and nose to find possible cause of headache, I have found those organs normal. Many such patients were complaining of constipation, poor but not markedly upset digestion, and more or less anorexia, but other more definite symptoms were not elicited by their physician or myself. Such patients almost invariably were relieved of their headaches by Dr. Stelwagon's formula, or the later and possibly worse-tasting one I used in Panama, in which the compound tincture of cinchona was substituted for the elixir of calisaya.

RICHARD M. NELSON, M.D., Atlanta, Ga.

Blood Transfusion in 1666

To the Editor:—In reading the celebrated diary of Samuel Pepys I recently came across the first account, so far as I know, of the transfusion of blood, which I think will be of interest to the readers of THE JOURNAL. The following is an extract:

"Nov. the 14th, 1666. Dr. Croone told me that at the meeting at Gresham College to-night (which, it seems, they now have every Wednesday again), there was a pretty experiment of the blood of one dog let out (till he died) into the body of another on one side, while all his own run out on the other side. The first died upon the place, and the other very well, and likely to do well. This did give occasion to many pretty wishes, as of the blood of a Quaker to be let into an Archbishop, and such like; but, as Dr. Croone says, may, if it takes, be of mighty use to man's health, for the amendment of bad blood by borrowing from a better body.

"Nov. 16th. This noon I met with Mr. Hooke, and he tells me the dog which was filled with another dog's blood, at the College the other day, is very well,and like to be so as ever, and doubts not its being found of great use to men; and so do Dr. Whistler, who dined with us at the tavern."

MICHAEL CAMPBELL, M.D., Bearden, Tenn.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

RESPONSIBILITY OF SURGEON IN USE OF ROENTGEN RAY

To the Editor:—There are two legal questions affecting the rights and the interests of the surgeon, concerning which I should like to ask for information.

A. Is there any opinion holding a surgeon responsible for not using the Roentgen ray in fractures and other surgical conditions in which the Roentgen ray might be an aid to diagnosis? Would this be affected by the inability of the patient to pay the expenses that would have to be incurred?

B. First, is there any opinion holding the surgeon responsible when he tells the patient in advance that the result, under the *conditions of the treatment, will not be satisfactory* and yet treats the patient with the result foretold? Secondly, if a surgeon treats a patient because of the inability of the patient to pay hospital expenses or surgeon's fees under unfavorable conditions as to attendance and environment, etc., is he responsible for the result, if not satisfactory? The second question partly covers this.

R. D. O.

ANSWER.—The fundamental consideration underlying these questions is, What is the measure of a physician's duty and liability in diagnosing and treating a supposed fracture or a supposed surgical condition of any nature?

In the treatment of any particular case a physician must use such reasonable skill and diligence in applying or administering any medicine or means used as would be exercised by the average physician of the same community under similar circumstances (*Spain v. Burch* (Mo.), 154 S.W. 172; *McGraw v. Kerr* (Colo.), 128 Pac. 870; *McBride v. Huckins* (N.H.), 81 Atl. 528; *Sawyer v. Berthold* (Minn.), 134 N.W. 120; *Robinson v. Crothwell* (Ala.), 57 So. 23; *Mosslander v. Armstrong* (Nebr.), 134 N.W. 967; *Hinkle v. Smith* (Ga.), 77 S.C. 650; *Osborn v. Carey* (Idaho), 132 N.W. 967; *Booth v. Andrews* (Neb.), 137 N.W. 884).

A.—Is a physician bound to use the Roentgen ray in diagnosis? Would the liability of the physician be affected in any way by the fact that the failure to use the Roentgen ray was owing to an inability on the part of the patient to meet the expense thereof?

1. The failure to use the Roentgen ray as a means of diagnosis may, under all the facts, be a mere mistake of error or

judgment for which a physician is not generally liable (*McGraw v. Kerr* (Colo.), 128 Pac. 870; *Taylor v. Kidd* (Wash.), 129 Pac. 406).

2. A patient is always entitled to a thorough examination by his physician such as an ordinary and skilful physician would give under the circumstances (*Rogers v. Kee* (Mich.), 137 N.W. 260; *Sawyers v. Berthold* (Minn.), 134 N.W. 120).

3. Yet a failure to use the Roentgen ray would not necessarily be an error so gross as to be inconsistent with that degree of skill which it is the duty of a physician to possess and exercise, irrespective of any fee which may enter into the case (*McGraw v. Kerr* (Colo.), 128 Pac. 870; *Rogers v. Kee* (Mich.), 137 N.W. 260; *Sawyer v. Berthold* (Minn.), 134 N.W. 120; *Taylor v. Kidd* (Wash.), 129 Pac. 406; *McBride v. Huckins* (N.H.), 81 Atl. 528).

4. The skilfulness of a physician in diagnosis and treatment should be tested by the recognized rules of his own school and must be determined by resort to the testimony and opinion of experts, not only as to whether the defendant exercised ordinary care and skill in examining the case but in applying the remedies as well, and such an opinion is to be based on all the facts of the case (*McGraw v. Kerr* (Colo.), 128 Pac. 870; *Taylor v. Kidd* (Wash.), 129 Pac. 406; *Rogers v. Kee* (Mich.), 137 N.W. 260.

5. It would seem essential for evidence to be adduced that under the given conditions and all the facts it is usual and customary at the particular time and place and among physicians of the defendant's school, or immediately necessary, to use the Roentgen ray in diagnosis, or thereby to prove that failure so to do constitutes want of care and skill, taking into consideration the fact that the patient could not afford to use the Roentgen ray and that he was fully advised under the circumstances (*McGraw v. Kerr* (Colo.), 128 Pac. 870; *Rogers v. Kee* (Mich.), 137 N.W. 260).

6. Under the rule above stated the burden will rest with the patient to prove that it is usual and customary for the average physician in the correspondent's city in the exercise of ordinary skill and care to insist on the use of the Roentgen ray in diagnosing a case despite the fact that the patient is unable to pay therefor and taking into due consideration all the other facts that may enter into any given case; otherwise no liability attaches to the physician.

B.—Is a surgeon liable for unsatisfactory results due to treatment under unfavorable circumstances as to attendance and environment owing to the patient's inability to pay hospital expenses, etc., supposing the surgeon has warned the patient in advance as to the probable results?

1. Physicians and surgeons do not impliedly warrant the recovery of a patient and are not liable on account of any failure in that respect, generally speaking, unless through some default of their own (*Booth v. Andrews* (Neb.), 137 N.W. 884).

2. In an action for damages against a licensed physician the presumption is that he has performed his duty to his patient and also that the physician has correctly prescribed for and treated the patient. If the contrary be alleged the burden is on the patient to establish any liability on the part of the physician (*Booth v. Andrews* (Neb.), 137 N.W. 884; *Cozine v. Moore* (Iowa), 141 N.W. 424; *Hinkle v. Smith* (Ga.), 77 S.E. 650; *James v. Robertson* (Utah), 117 Pac. 1068; *Ballard v. Railway* (Ky.), 139 S.W. 771; *Bigger v. Railway* (Mo.), 140 S.W. 602; *Hales v. Raines* (Mo.), 141 S.W. 917; *Frazin v. Ins. Co.* (Mo.), 141 S.W. 936; *Fields v. Traction Co.* (Minn.), 133 N.W. 577).

3. Hence the burden would again rest on the patient to prove that under all the circumstances the physician had failed to exercise that ordinary degree of skill and care that is exercised by physicians in his locality; otherwise no liability attaches to the physician.

Under both A and B the issue raised would most properly be left to the jury to decide as to whether or not the physician had exercised the proper degree of skill and care. If this be decided in the affirmative, then as a matter of law there is no liability. If in the negative liability would attach, and it would be incumbent on the jury to affix damages.

LITERATURE ON THE BINET TESTS FOR ESTIMATING MENTALITY

To the Editor:—Please publish a bibliography concerning the Binet tests for estimating mentality.

R. P. Stoops, M.D., Crosbyton, Tex.

Answer.—Following are references to the recent literature:

Sullivan, W. C.: Feeble-Mindedness and Measurement of Intelligence by Method of Binet and Simon, *Lancet*, London, March 23, 1912.

Potts, W. A.: Tests of Intelligence, *Brit. Med. Jour.*, April 20, 1912.

The Binet-Simon Tests, Queries and Minor Notes, The Journal, Jan. 13, 1912, p. 132.

Binet, A., and Simon, T.: A Method of Measuring the Development of the Intelligence of Young Children, Courier Company, Lincoln, Ill., price $1.

Goddard, H. H., The Binet-Simon Measuring-Scale for Intelligence, *Training School*, January, 1910; Two Thousand Normal Children Measured by the Binet Measuring-Scale of Intelligence, *Pedagogical Seminary*, June, 1911.

Hill, H. F., and Goddard, H. H.: Delinquent Girls Tested by Binet Scale, *Training School*, June, 1911.

Town, C. H.: Binet-Simon Intelligence Tests in Their Application to Defectives, *Illinois Med. Jour.*, August, 1912.

Cruchet, R.: The Binet Test for Mental Retardation, *Jour. de méd. Bordeaux*, Jan. 7, 1912.

LITERATURE ON ACIDOSIS

To the Editor:—Kindly refer me to any new matter you may be in possession of in regard to acidosis. C. L. P.

Answer.—The following list includes articles which have appeared within the past two years:

Gordon, W. S.: Acidosis, *New York Med. Jour.*, March 15, 1913.

Labbé and Bith: Diagnosis of Acidosis, *Presse méd.*, Dec. 21, 1912.

Fleischer, E. C.: Importance of Non-Diabetic Acidosis, *California State Jour. Med.*, January, 1913.

Levison, C. G.: Postoperative Acidosis, *California State Jour. Med.*, January, 1913.

Sellards, A. W.: Determination of the Equilibrium in Human Body between Acids and Bases, with Special Reference to Acidosis and Nephropathies, *Bull. Johns Hopkins Hosp.*, October, 1912; abstr., The Journal, Nov. 2, 1912, p. 1651.

Hart, T. S., Acidosis Index, *Quart. Jour. Med.*, July, 1912.

Routh, L. M.: Parotitis Associated with Glycosuria and Acidosis, *Brit. Med. Jour.*, July 13, 1912; abstr., The Journal, Aug. 4, 1912, p. 484.

Nielsen, A.: Histologic Determination of Acidosis in Inanition, *Hospitalstid.*, Oct. 30, 1912.

Montlawn, H.: Clinical Importance and Significance of Acidosis in Diabetes, *Med. Press and Circ.*, Oct. 16, 1912.

Rover: Types of Respiration in Health and in Acidosis, *Ztschr. f. klin. Med.*, 1913, lxxvii, Nos. 3 and 4.

Lauritzen, M.: Diabetic Acidosis, *Therap. d. Gegenw.*, February, 1913; abstr., The Journal, March 15, 1913, p. 872.

Le Lorier, V.: Ferric Chlorid Test of Acidosis in Vomiting of Pregnancy, *Rev. prat. d'obst. et de gynéc.*, July, 1912.

Parkinson, H. H.: Acidosis and Acetonemia, with Report of Four Cases, *Australasian Med. Gaz.*, May 3, 1913.

Eustis, A.: Acidosis: Two Types Demonstrable—Endogenous and Exogenous, *New Orleans Med. and Surg. Jour.*, September, 1913.

Palmer, W. W., and Henderson, L. J.: Clinical Studies on Acid Base Equilibrium and Nature of Acidosis, *Arch. Int. Med.*, August, 1913, p. 153.

Acetic Acid and Acidosis, editorial, The Journal, April 12, 1913, p. 1158.

Richards, J. H.: The Wassermann Reaction in Diabetes Mellitus, with Special Reference to Its Relation to Acidosis, The Journal, April 12, 1913, p. 1130.

EPINEPHRIN IN PRESCRIPTION

To the Editor:—Some months ago, having learned that the Council on Pharmacy and Chemistry of the A. M. A. had adopted epinephrin as a generic term for all adrenal preparations, I gave up prescribing adrenalin chlorid, and have since ordered epinephrin. I have had difficulty in getting a prescription filled at times, the pharmacist stating that he did not have that particular preparation in stock.

In the Practical Medicine Series, viii, 111, Butler states that epinephrin is a trade-marked name. Is this true, and if so, how should my prescriptions be written to permit the pharmacist to dispense any one of the adrenal preparations?

Linn Emerson, M.D., Orange, N. J.

Answer.—Epinephrin is a non-proprietary unprotected name, originally used by Professor Abel, and adopted by the Council on Pharmacy and Chemistry to designate the active agent of the suprarenal glands. When used in a prescription, especially if followed by the designation N. N. R., the druggist ought to understand that any one of the preparations mentioned in N. N. R. can be used to fill the prescription.

GARDNER'S AMMONIUM HYPOPHOSPHITE AND HYPO-QUINIDOL

To the Editor:—I enclose herewith R. W. Gardner's booklet on Ammonium Hypophosphite and Hypo-Quinidol and would be pleased if you would give a report of them in The Journal.

S. V. Romig, M.D., Chicago.

Answer.—Gardner's Syrup of Ammonium Hypophosphite is a syrup containing 3.33 gm. ammonium hypophosphite in each 100 c.c. (16 grains in each fluidounce). It has the properties of ammonium hypophosphite. Both ammonium hypophosphite and Gardner's Syrup of Ammonium Hypophosphite are described in New and Nonofficial Remedies, 1913. An exammation of the advertising matter both of the circular sent in and of that which is in our files fails to show that R W Gardner makes any definite statement in regard to the nature or the composition of his Hypo Quinidol Certain statements made in the literature sound much as if the article might be some sort of a quinin hypophosphite preparation But if this is true, its action would be the same as other salts of quinin and the extravagant claims made could not be substantiated It is said to be a "non toxic quinin" It is safe to say that a quinin which will not produce the toxic symptoms—cinchonism—either is not absorbed in sufficient quantity or has been so changed that it no longer has the therapeutic properties of quinin Altogether Hypo Quinidol must be put down as a preparation the composition of which is kept secret and regarding which extravagant and highly improbable statements are made

DOES THE JOURNAL NEGLECT THE EAST?

To the Editor —The enclosed speaks for itself If it is of value to the profession use it although I prefer my name to be kept out of it Most of the frauds you have uncovered worked the West I do not remember an Eastern or New England concern that you have shown up since I became a subscriber

X———, Massachusetts

Answer —Our correspondent enclosed in his letter some material sent out by the Neal Institute This concern was discussed in The Journal, April 5, 1913, under the title, "The Gatlin Institute"

That we have not neglected the east in our propaganda work will be evident from the following partial list of products or concerns that have been exposed in The Journal since November, 1912 — the time at which our correspondent became a subscriber

Faget's Hair Tonic, Baltimore, Nov 16 1912
Duffy s Malt Whiskey Rochester N Y Nov 23 1912
Peeke s Epilepsy Cure New York City Nov 30 1912
Baume s Analgesic Balm New York City Dec 14 1912
Micajah's Uterine Wafers, Warren, Pa , Jan 4 1913
Rheumaticide, New York City, Jan 4, 1913
Coutant's Deafness Cure New York City Jan 25 1913
Maignen's Powder Philadelphia Feb 15 1913
Iosaline, New York City March 15 1913
Flours and Foods for Diabetics, Watertown N Y. New York City and Rochester N Y , March 22 1913
Collyrium—Wyeth, Philadelphia, May 17 1913
Respirazone, Tilden New Lebanon N Y , June 14, 1913
Sinkina, New York City, Sept 27, 1913
Absorbine Jr, Springfield Mass , Oct 25 1913
Edward E Gardner deafness cure quack New York, Nov 1 1913.
Morley Ear Phone Philadelphia, Nov 22 1913
Pulmonol consumption cure fraud, New York City, Nov 29, 1913
Dowd s Phosphatometer, Buffalo, Dec 20, 1913

WORKS OF NAPOLEON S SURGEON GENERAL

To the Editor —Can you inform me if there is an English translation of the works of the surgeon general of Napoleon I, and if so, where it can be obtained?

F H Stibbens, M D, San Francisco

Answer —The following are works of Dominique Jean Larrey, surgeon in chief of the French army during the Napoleonic campaigns

Memoirs of Military Surgery of French Army on the Rhine, in Corsica, etc Baltimore 1814, J Cushing
Observations on Wounds, Philadelphia Mielke & Biddle, 1832
Surgical Memoirs of Campaigns of Russia, Germany and France, Philadelphia, Carey & Lea, 1832

These books are now out of print, but copies can probably be picked up second hand

TREATMENT OF PERSPIRING FEET

To the Editor —1 What is the best treatment of perspiring feet?

2 Has any author devoted special attention to this?

P L S

Answer —1 The cautious use of the Roentgen ray is recommended as the best method of checking excessive perspiration Among the local applications which may be used with benefit are tannic acid, alum or zinc sulphate in from 1 to 8 per cent solutions (from 1 dram to 1 ounce to a pint of water) Another useful application is a 1 per cent dilution of liquor formaldehydi in water The parts should be washed and then bathed in one of these solutions for several minutes twice daily and afterward powdered with boric acid with or without 1 or 2 per cent salicylic acid

2 We know of no special work on this subject It is treated in the works on diseases of the skin

Medical Economics

This Department Embodies the Subjects of Post Graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

A NEW MEDICAL ORGANIZATION IN ENGLAND

The discussion and bitter feeling engendered by the passage and enforcement of the British national insurance act has culminated in the organization in England of a new national body known as the National Medical Union This organization grew out of the conference of delegates representing the so called "non panel practitioners," that is, the physicians of England who have for various reasons declined to go on the "panel" or list of physicians available in each locality for services under the insurance act Commenting on this new organization, the *Medical Press and Circular*, an independent journal of London, says that as far as can be gathered from the published reports, the reason for the organization appears to be opposition to the insurance acts themselves and opposition to the management of the British Medical Association As was noted at the time, the special representative meeting of the British Medical Association held shortly after the passage of the insurance act took a radical position against the provisions of the act and called on the individual members of the association to pledge themselves not to take part in the enforcement of the act When the test came up, however, and the individual physicians were called on to decide whether they would place their names on the list of physicians available under the law, or enter a protest by refusing to take part in enforcing its provisions, a large majority of the members of the association enrolled themselves as eligible for local services Those physicians who adhered to their pledge have consequently been dissatisfied with the present situation The peculiar condition which at present exists is that the new organization, which is practically called into existence through dissatisfaction with the British Medical Association, is made up largely of members of the association who have conformed to the policy of the association itself

The new organization seems to find a great deal of difficulty in determining the qualification for membership It was first proposed to accept only physicians not concerned in any way in service under the insurance act A wide difference of opinion prevailed, but a compromise was finally effected by the adoption of a rather vague resolution providing that membership should be limited to those not on the "panel," leaving the determination of individual cases to local organizations Commenting on this point, the *Press and Circular* says, "The National Union starts on an apparently contradictory constitution that indirectly admits panel men to a non panel organization" Regarding the general situation, the *Press and Circular* is equally emphatic It says that there is little doubt that the machinery of administration and the management of the British Medical Association leave much to be desired, and that, at any rate, there is room for another medical organization to undertake important functions either neglected or inadequately performed by the British Medical Association as now conducted The new organization starts out with about a thousand members and fifty local associations The number of non panel physicians in the United Kingdom eligible to membership is estimated at about ten thousand but after deducting consultants and specialists and those holding official positions who are consequently not affected by the new act the total number of active non panel practitioners to which such an organization would appeal would be about five thousand

RECENT DEVELOPMENTS IN GERMANY

In Germany, the government has taken a hand in the effort to carry out the provisions of the industrial insurance laws in force in that country The ministers of trade, agriculture and the interior have issued a general order, outlining methods to be followed by insurance societies which may fail to secure a sufficient number of physicians by January 1. This order authorizes insurance societies, in case they are unable, through no fault of their own, to furnish medical services, to pay their insured persons a lump sum of money in place of furnishing professional services. This action is regarded as unfavorable to the position which the physicians interested have taken. The Federation of German Doctors Unions has issued a statement calling attention to the fact that the present struggle is not against individual members of the insurance societies, but is only against the management of these societies, and that physicians throughout Germany will continue to take care of their individual patients, as individuals, but not as members of the insurance societies. The so-called strike of physicians is, therefore, not against the patients but against the organizations. The statement contains detailed directions to individual physicians as to what action is to be taken under existing circumstances. Physicians are directed to charge exactly the same fees that they would receive if they were doing the work for the insurance societies. The *British Medical Journal*, commenting on the German situation, says that if the profession is strong enough and sufficiently united to carry out the fight in the manner indicated in the instructions of the executive committee, a complete victory for the physicians is sure to be the result. As the lack of unity among the members of the British Medical Association was the important and determining factor in the British situation, it will be interesting to know whether the German profession is any more united and will stand together better than did their professional brethren in Great Britain.

PRESENT STATUS OF OPTOMETRY LEGISLATION

A number of inquiries have been received regarding optometry laws. From the most recent and best available information, it would appear that optometry laws have been adopted by twenty-eight states as follows:

1901—Minnesota.

1903—California and North Dakota.

1905—Oregon.

1906—New Mexico.

1907—Arizona, Idaho, Indiana, Montana, Nebraska, Tennessee and Utah.

1909—Delaware, Florida, Iowa, Kansas, Maine, Michigan, New York, North Carolina, Rhode Island, Vermont, Washington and West Virginia.

1911—New Hampshire and Oklahoma.

1913—Nevada.

A diagram of optometry legislation would show that this movement had its inception in the early part of the last decade. It gathered its impetus throughout this period, and apparently reached its high-water mark about 1909. From 1910 to the close of the legislative year 1912-1913 only four states adopted such laws.

During the latter period optometry bills have been introduced in the different legislatures and rejected as follows:

1910—Rejected in Kentucky, Maryland, Massachusetts, New Jersey and Ohio. Successful in none.

1911—Rejected in eighteen states. Successful in two states.

1912—Successful in one state.

1913—Rejected in Colorado, Connecticut, Missouri, New Jersey, Ohio, Pennsylvania, South Carolina, South Dakota, Texas and Wisconsin. Successful in one state.

At present there are twenty states in which the optometrists have failed to secure affirmative action for their bills, as follows: Alabama, Arkansas, Colorado, Connecticut, Georgia, Illinois, Kentucky, Louisiana, Maryland, Mississippi, Missouri, New Jersey, Ohio, Pennsylvania, South Carolina, South Dakota, Texas, Virginia, Wisconsin and Wyoming.

Vaccine Therapy.—The fundamental principle of vaccine therapy as I conceive it is to exploit in the interest of the infected tissues the unexercised immunizing capacities of the uninfected tissues.—Sir Almroth E. Wright.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, Jan. 13. Chairman, Dr. W. H. Sanders, Montgomery.

ILLINOIS: The Coliseum Annex, Wabash Ave. and 16th St., Chicago, Jan. 14-16. Acting Sec., Amos Sawyer, Springfield.

INDIANA: Room 56 State House, Indianapolis, Jan. 13-15. Sec., Dr. Wm. T. Gott, 56 State House, Indianapolis.

KANSAS: Topeka, Feb. 9-11. Sec., Dr. H. A. Dykes, Lebanon.

MISSOURI: Jefferson Hotel, St. Louis, Feb. 9-11. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEBRASKA: Lincoln, Feb. 11. Sec., Dr. H. B. Cummins, Seward.

NEW MEXICO: Santa Fe, Jan. 12. Sec., Dr. W. E. Kaser, East Las Vegas.

NEW YORK: Jan. 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Albany.

OKLAHOMA: Oklahoma City, Jan. 13. Sec., Dr. John W. Duke, Guthrie, Okla.

SOUTH DAKOTA: Capitol Bldg., Pierre, Jan. 13. Sec., Dr. Park B. Jenkins, Waubay.

VERMONT: Montpelier, Jan. 13-15. Sec., Dr. W. Scott Nay, Underhill.

WASHINGTON: Spokane, January 6-12. Sec., Dr. F. P. Witter, Traders' Block, Spokane.

WISCONSIN: Madison, Jan. 13. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

"Quality, Not Quantity, in Medical Training"

Several times recently we have taken pleasure in noting the insight into medical matters shown by the Boston *Herald*. In its issue of Dec. 22, 1913, under the preceding heading, it said:

"Fifty-odd medical schools have gone out of existence in the last few years—either by actual cessation or by merger with other institutions, following the agitation for higher standards in medical teaching.

"The change is significant. By far too many schools were mere 'diploma factories,' with but a pretense at instruction. Preparation for the state board examinations was the curriculum. Other institutions, more sincere in purpose, were wretchedly inadequate, without proper laboratory and clinical facilities. The graduates from such schools entered practice doubly handicapped. They were usually unable to secure a hospital appointment and thus were obliged to treat with only the barest theoretical training.

"The effect on the medical profession has been marked. In many outlying districts, in particular, ignorant practitioners have brought the science into disrepute, driving their ill-treated patients either to out-and-out quacks or to cults of one kind or other.

"The evolution which has greatly lessened the number of 'medicos' should be beneficial in many ways. The profession has become greatly overcrowded—as have many other fields, to be sure. But keenness of competition is apt to be most disastrous in medicine, by tempting to departure from ethical standards and by unduly emphasizing the financial aspects of service. Wherever the physician's bread and butter becomes as important a consideration as his patient's welfare, the practice of medicine is marked for decline.

"For that reason the elimination of the cheap medical school—of the institution where payment for the whole course in advance is taken at a great discount—is gratifying. It will result in a better standardization of medical theory and practice, and in a continuance of the high plane of ethics on which the success of the profession depends."

Oklahoma July Report

Dr. John W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Guthrie, July 8-9, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 35, of whom 34 passed and 1 failed. Twenty-three candidates were licensed through reciprocity, including 2 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
University of Arkansas	(1913)	76
Bennett Medical College	(1913)	81
Chicago College of Medicine and Surgery	(1912) (1913)	88; 84, 90.
Rush Medical College	(1913)	87

Kansas Medical College	(1913)	84
Tulane University	(1913)	84, 85
St. Louis University	(1911)	77
University Medical College, Kansas City	(1913)	85
American Medical College, St. Louis	(1913)	85, 86
St. Louis College of Physicians and Surgeons	(1913)	79
Eclectic Medical Institute, Cincinnati	(1897)	82
Western Reserve University	(1912)	84
University of Oklahoma	(1913)	81, 82, 84, 84, 85, 86, 87, 89.
Memphis Hospital Medical College	(1913)	80, 81, 86.
Vanderbilt University	(1913)	79
University of Tennessee	(1913)	83
Meharry Medical College	(1913)	72
Chattanooga Medical College	(1906)	70
Fort Worth School of Medicine	(1913)	80, 82
Marquette University	(1912)	75

FAILED

Memphis Hospital Medical College	(1911)	66

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Illinois	(1907)	Nebraska
American College of Med. and Surgery, Chicago	(1903)	Arkansas
University of Louisville	(1898) (1909)	Texas New Mexico
Kentucky School of Med.	(1887) (1894) (1908)	Texas New Mexico
Tulane University	(1895) (1905)	Arkansas Mississippi
Missouri Medical College	(1885)	Arkansas
Washington University, St. Louis	(1907)	Arkansas
American Medical College, St. Louis	(1910)	Arkansas
Starling Medical College	(1890)	W. Virginia
Eclectic Medical Institute, Cincinnati	(1886)	Texas
Vanderbilt University	(1887) (1911) (1912)	Texas Tennessee Arkansas
Memphis Hospital Med. Coll.	(1901) (1910)	Arkansas Mississippi
University of Nashville	(1901)	Arkansas
Meharry Medical College	(1910)	Tennessee

The following questions were asked:

ANATOMY

1. Describe the abdominal aorta. Give beginning, course and ending. 2. Give size, shape, origin and insertion of the pectoralis major muscle. 3. Give number of bones composing the pelvis. 4. Give articulations of the ethmoid bone. 5. Describe the difference between the intercostal nerves and the other spinal nerves, as to distribution. Give number. 6. What is transmitted through the foramen magnum? 7. Give number and name of the coats of the large intestine. 8. Give names of the ligaments of the liver. 9. Give the number of pairs of the spinal nerves. Name them. 10. Give the articulations of the humerus.

PHYSIOLOGY

1. Define: (a) function, (b) metabolism, (c) anastomosis, (d) endosmosis, (e) karyokinesis. 2. What do you understand calcification to be? 3. Describe the capillary circulation. What force propels the blood through the tissues? 4. What is the distribution of the anterior division of the 5th pair of spinal nerves including their connection with the sympathetic nervous system? 5. Give the chemical and physical properties of normal urine. 6. What part of the brain has supervision of the equilibrium of the body? 7. Give name of the first pair of cranial nerves, also their origin and function. 8. What are the functions of the kidney? 9. What is meant by a ductless gland? Name one and give its function. What nerves supply the muscles of expression?

CHEMISTRY

1. What is an element? What element is in all acids? What elements enter into formation of all organic bodies? 2. Complete the equation, $C_2H_5Cl+KOH=$What? After completing the equation name the compounds on either side of the equation. 3. How would you determine chemically whether a urinary deposit were composed of urates or phosphates? 4. Define the following: Allotropism, endosmosis, alloy, amalgam. 5. Give chemical antidotes for poisoning from apomorphin. 6. Give chemical antidotes for iodin and also formaldehyd. 7. Give chemical name and formula for iodoform. 8. What is an alkaloid? What is the difference between a base, salt and an acid? 9. If the specific gravity of a patient's urine were 1.014, would you make a Fehling's test of the urine? Outline the procedure for examination of urine for applicant for $1,000 life insurance. 10. Describe hydrochloric acid as to its occurrence. Give symbols for hydrochloric acid and antidotes (chemically) in case of poisoning.

PHYSICAL DIAGNOSIS

1. Define physical diagnosis. 2. How many methods of eliciting physical signs? Name them. 3. Name the most important of the methods. 4. Describe palpation. 5. What is auscultatory percussion? 6. Diagnose spasmodic asthma. 7. What do the methods of physical examination of the heart include? 8. What is a râle? 9. Define a murmur. 10. What is the rhythm of a murmur?

BACTERIOLOGY AND PATHOLOGY

1. Define bacteriology. 2. Describe a culture of typhoid bacillus. 3. What is a pyogenic microbe? 4. Name three microbes and classify them. 5. What is a spirillum? 6. Define pathology. 7. Give pathology of lobar pneumonia. 8. Give pathology of erysipelas. 9. Give pathology of diphtheria. 10. Give pathology of trachoma.

TOXICOLOGY AND MEDICAL JURISPRUDENCE

1. Give maximum dose of hyoscine hydrobromate. How would you treat a case of hyoscine poisoning? 2. What is the smallest fatal dose of white arsenic? Give shortest interval before death. Give treatment for arsenical poisoning. 3. What is the fatal dose of carbolic acid taken internally? How soon does death occur after the poison has been swallowed? Give treatment. 4. Give fatal dose of ergot. How would you treat a case of poisoning from the drug? 5. Give fatal dose of podophyllum. 6. What is general paresis? 7. What would be your method of examining a person suspected of feigning insanity? 8. If you were called on to help determine the plea of legitimacy, or to ascertain whether or not the woman had actually been pregnant, or if an attempt had been made to conceal a birth, how would you proceed to make the examination? 9. How would you go about having an insane person committed to the Hospital for the Insane in this state? 10. How would you differentiate between real concussion of the brain, and feigned concussion of the brain?

SURGERY

1. What is inflammation? How does inflammation extend and how may it terminate? 2. Make a differential diagnosis of coma from injury, apoplexy, uremia, opium poisoning and alcoholic intoxication. 3. With what conditions may aneurysm be confounded? 4. What are the methods of controlling hemorrhage? 5. What are the causes of secondary hemorrhage? 6. Describe resection of the knee-joint. 7. How would you perform tracheotomy? 8. Describe the operation for empyema. 9. When is operative interference advisable in the treatment of malignant tumors? 10. Give causes and treatment of rupture of the urinary bladder.

GYNECOLOGY

1. What are the physical signs of prolapsed ovary? Give treatment. 2 Describe the technic of catheterization. 3. Discuss ventrofixation of the uterus 4. Define vicarious menstruation? 5. Diagnose carcinoma of the breast. 6. Describe the malformations of the uterus. 7. Give causes of menorrhagia. 8. Describe the varieties of uterine fibroma. With what other conditions may they be confounded? 9. What is salpingitis? Give etiology. 10. What is a pessary? Give indications for its use.

OBSTETRICS AND HYGIENE

1. Give origin of blood and nerve supply of the uterus. 2. (a) Make a diagnosis of pregnancy at the twelfth week. (b) Can you make a positive diagnosis at this time? 3. Make a diagnosis of tubal pregnancy before rupture of the tube. 4. What conditions may simulate rupture of the tube in tubal pregnancy? 5. (a) How should the cord be dressed? (b) How would you control hemorrhage of the cord? 6. Treat a case of threatened abortion. 7. (a) What is the perineal body? (b) What are its functions? 8. (a) What are the signs of fetal death in utero? (b) Give treatment of a case. 9. What disposition would you make of the excreta of a typhoid patient? 10. What four diseases are more apt to be carried in milk?

MATERIA MEDICA AND PRACTICE

1. In what diseases may hemorrhage from the bowels occur? 2. Differentiate neuritis from neuralgia. 3. What is the difference between anesthetics and anodynes? 4. Define pertussis, dysphagia, uremia, kyphosis, hemoptysis. 5. Name the official digestive ferments and give indications for their use. 6. Give etiology, symptoms and treatment of erysipelas. 7. Give indications for the use of ergot. What is the effect of a toxic dose? 8. Discuss palpitation of the heart. 9. Compare the physiological action of belladonna and hyoscyamus. 10. For what is potassium permanganate used?

Connecticut November Report

Dr. Charles A. Tuttle, secretary of the Connecticut State Medical Examining Board, reports the written examination held at New Haven, Nov. 11, 1913. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 53, of whom 29 passed and 24 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale University	(1912)	79.9, 84.7
Georgetown University	(1912) (1913)	75 75.3
Rush Medical College	(1912)	80.1
College of Physicians and Surgeons, Baltimore	(1913)	75.8, 81.2, 86.4.
University of Maryland	(1912)	76.5
Tufts College Medical School	(1912) (1913)	82.2 77.9
Fordham University College of Medicine	(1912)	75.2, 78
Long Island College Hospital	(1911)	76.4
New York University Medical College	(1897)	69.8*
University and Bellevue Hospital Medical College,	(1913)	76; 79.9; 80.5.
Jefferson Medical College	(1911) (1913)	85.2 81.3, 84.3
Medico-Chirurgical Coll. of Philadelphia	(1905)	78.1
University of Vermont	(1913)	75.5, 75.7, 76.1, 76.3, 79.4, 79.6.
McGill University, Montreal	(1913)	83.6

* *Credit of 10 per cent. allowed for years of practice.*

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1912)	46.1, 59.6
Baltimore Medical College	(1909)	66.5
Baltimore University, School of Medicine	(1905)	29.5
College of Physicians and Surgeons, Baltimore,	(1911) (1913)	61.7 60.2.
Maryland Medical College,	(1911) (1912) (1913)	56.1 59.8 58.7, 61.7, 68.2.
University of Maryland	(1912)	72.6
Tufts College Medical School	(1912) (1913)	68.2 72.6
University of Michigan, Dept. of Med. and Surg.	(1912)	67.9
Columbia University	(1913)	59.9
Fordham University	(1912)	70.9
Long Island College Hospital	(1910)	64
University of the South	(1902)	51.6
University of Vermont.	(1912) (1913)	68.9, 69.4, 65, 68.3, 70.7.

Book Notices

Diseases of Women. A Clinical Guide to Their Diagnosis and Treatment. By George Ernest Herman, M.B., F.R.C.P., F.R.C.S., Consulting Obstetric Physician to the London Hospital. Assisted by R. Drummond Maxwell, M.D., F.R.C.S., Assistant Obstetric Physician to the London Hospital. Fourth Edition. Cloth. Price, $7.50 net. Pp. 899, with 300 illustrations. New York: Funk & Wagnalls Company, 1913.

For many years this was one of the most authoritative of British text-books on diseases of women. In its early form the work showed considerable variation from the conventional text. The author's original aim, as frankly set forth, was to provide a book which should guide the student and practitioner to the diagnosis and right treatment of the diseases of women. Without regard to anatomic classification he endeavored to present the different affections in the way in which they appeared in practice. Thus the work was classified according to symptoms, a scheme which has some definite advantage from a purely clinical point of view, if confusing to the reader accustomed to the commoner anatomic arrangement. After a few introductory chapters, chronic pelvic pain is discussed, then pelvic inflammation, and next internal hemorrhage in general and is followed by five short chapters on leukorrhea. The disorders of menstruation and of the sexual functions come next, followed by urinary and rectal complications. The volume concludes with a complete presentation of the subject of abdominal tumors. This arrangement is continued in the new edition, diagnosis and treatment again being emphasized. The greatest change in the present volume is in the parts relating to operative technic, the portion of the work revised by Dr. Maxwell. In the plastic work of cervix and vagina and in radical extirpation for malignancy, as well as in many other instances, the revision has added greatly to the book as a text. Many of the illustrations, including eight in color, are new.

Diseases of Women. Medical and Surgical Gynecology. By Charles A. L. Reed, A.M., F.C.S., M.D., Professor in the University of Cincinnati. Cloth. Price, $6. Pp. 944, with 448 illustrations. New York: D. Appleton & Co., 1913.

In this latest addition to the long list of American text-books on gynecology the writer has succeeded in his attempt to make a book that is at once systematic, direct and brief without being synoptic, and is comprehensive without being discursive. The author's clear, incisive style and talent for rhetorical presentation has enabled him to cover the wide range of subjects and present his views clearly and forcefully. He has presumed a knowledge by the reader of the elementary anatomy and pathology of the subjects treated. These, as well as the usual bibliographic tables, are therefore omitted. The genito-urinary diseases of women, surgical conditions of the kidney and ureter, surgery of the rectum and certain obstetric operations are included. The somewhat unusual arrangement of the matter which is carried out to its logical conclusion, aids materially in the use of the book for ready reference. It is divided into sections on malformations, injuries, displacements, foreign bodies, infections, neoplasms and trophic changes. Within each section the affection is considered generally in its relation to the anatomic regions, a chapter being devoted to each region.

We turn with particular interest to the section on infections. The gonococcus infection is treated at length, but we are somewhat disappointed to find no reference to the use of vaccines in diagnosis and treatment, a subject which really originated in this country. It would seem also that the important and special features of vulvovaginitis in children demand mention. Under streptococcus infection of the uterus the author considers puerperal infection and advises radical treatment that is opposed to the teaching of most obstetricians in this country. On the first sign of abnormal temperature, with or without chill, a careful exploration of the uterus is advised. If the symptoms are of intra-uterine origin, thorough curettement is advised. In the technic of curettage it is directed after the use of the curet and irrigation to pack the uterine cavity with gauze saturated with 98 per cent. phenol (carbolic acid), which should be left *in situ* from three to five minutes and then replaced for a similar length of time with gauze saturated with pure alcohol.

In the treatment of suppurating mastitis the author recommends that a drainage-tube should be inserted into the abscess and kept in as long as the discharge is purulent. In these cases many believe that the rubber drainage-tube often keeps open fistulas that would be avoided by the use of wick drains. No reference is made to the Roentgen and radium treatment of neoplasms. Section 8 is devoted to surgical conditions of pregnancy and parturition. Induction of abortion, ectopic pregnancy, rupture of the uterus, laceration of the cervix and perineum, symphyseotomy and cesarean section are considered. Just why these obstetric operations should be included and the others omitted is not apparent. The last section is devoted to menstruation and its diseases and was written by Dr. Dan Millikin for the "Text-Book of Gynecology," published in 1901. As it has not been revised it does not include the important changes in our knowledge of menstruation that have resulted from the epoch-making work of Hitschmann and Adler. The illustrations are nearly all original. While many are sketches and some more or less diagrammatic they are very satisfactory in giving a clear picture of what is intended. The book as a whole is an interesting and valuable contribution to our literature and a credit to its author.

Laboratory Methods in Agricultural Bacteriology. By F. Löhnis, Ph.D., Professor of Agricultural Bacteriology in the University of Leipsic. Translated by William Stevenson, B.Sc., N.D.A., N.D.D., Lecturer on Dairying to the West of Scotland Agricultural College, and J. Hunter Smith, B.Sc., N.D.A., N.D.D., Lecturer on Agricultural Chemistry and Bacteriology to the University College of South Wales and Monmouthshire. Cloth. Price, $1.75 net. Pp. 136, with 42 illustrations. Philadelphia: J. B. Lippincott Company, 1913.

This little manual is somewhat original. Undoubtedly the time is near when agricultural colleges will offer work in branches of agricultural bacteriology in addition to the courses offered at present in dairy bacteriology and soil bacteriology. The book gives directions for study of bacteria and their activities which are of special interest to agriculturists. The first part introduces the student to bacteriologic technic in general by useful experiments with air, water and foodstuffs. The bacteriology of milk naturally receives much attention. The work outlined includes study of the bacterial flora of milk, giving special attention to various forms of lactic acid bacteria. Methods of examination of butter and cheese are also given. In addition work on the bacteriology of manures and soils is outlined. On the whole the book is well arranged and the directions ample, but the English translation might be occasionally clearer and more concise. There are many useful illustrations fairly well reproduced.

The Microtomist's Vade-Mecum. A Hand-Book of the Methods of Microscopic Anatomy. By Arthur Bolles Lee. Seventh Edition. Cloth. Price $4 net. Pp. 526. Philadelphia: P. Blakiston's Son & Co., 1913.

The additions to this manual have been mostly in small details and yet have increased the index by more than 700 new entries. The staining of neurofibrils is so important in the author's opinion that the sections on this subject have been almost entirely rewritten. The same is true with sections dealing with the blood and blood parasites. Some matters of theoretical interest have been omitted so that the book is of a more convenient size.

A Practical Treatise on Medical Diagnosis. For Students and Physicians. By John H. Musser, M.D., LL.D. Sixth Edition. Revised by John H. Musser, Jr., B.S., M.D., Instructor in Medicine in the University of Pennsylvania. Cloth. Price, $5 net. Pp. 793, with 223 illustrations. Philadelphia: Lea & Febiger, 1913.

So rapidly has this subject grown and so frequent are the additions and changes, that a sixth edition of this valuable guide has been thought necessary. New sections have been added to the discussions on the disturbances of the internal secretions, and a new chapter has been added dealing with the various functional tests of organic efficiency. Other sections have been reviewed and much material abbreviated and condensed.

Miscellany

False Advertising

It is becoming increasingly evident that the enactment and fairly efficient enforcement of the national and state food and drugs laws has not secured to dealers and consumers freedom from fraud and deception in food and drug products.

False and misleading statements, designs and devices that appear in any other place than on the label attached to the package, or the false and deceptive methods used by designing agents, salesmen or manufacturers cannot be reached or prevented by resort to the food and drugs law and thus, in many instances, the public continues to suffer by reason of gross misrepresentation of one kind or another. Take, for illustration, the false, extravagant and, in their final effect, often harmful claims of many of the fake nostrums and appliances which appear in glaring advertisements in newspapers, circulars or pamphlets, or are given by word of mouth by an agent to a prospective customer: in such cases the food and drugs law is powerless to protect the purchaser.

An illustration of fraudulent advertising is that of the methods of a certain baking-powder company whose agents and demonstrators are instructed to make what is called "the water-glass tests." Several baking-powders are used, a small quantity of each being placed in a glass and water added. The baking-powder of this particular manufacturer contains a small quantity of albumin, and this powder containing the albumin foams to the top of the glass, the dissolved albumin making a more or less viscous liquid which retains the gas bubbles; the other powders which do not contain albumin simply foam up, the gas escaping into the air. The spectator sees the powder containing the albumin foam up to the top or over the top of the glass, while the other powders have but few bubbles; the opportunity is thus presented to the demonstrator or agent to represent to the housewife or prospective customer that the leavening power of the baking powder showing the glass full of bubbles is very much greater than that of the powders which do not make this showing, and thus a fraud is practiced in that the albumin powder is made to appear better than it really is, or conversely, that the other powders are made to appear worse than they really are. This test is deceptive, and is no indication of the raising power of the respective baking-powders. Such a demonstration is no test of strength; there is no reason why the consumer should pay more for baking-powder which foams and is retained in the glass because of the albumin content than he pays for powder of the same leavening power which contains no albumin and will, therefore, not foam and retain the bubbles when the water is added to it. The amount of albumin which is added to the baking-powder is only a fraction of 1 per cent., and its cost is negligible.

Patent medicines, food products and baking-powders should be sold for exactly what they are, and false representations of any kind are frauds on the purchaser. It is for these reasons that a false advertising law is imperatively necessary as a supplement to the food and drugs laws.—S. J. Crumbine, M.D., Secretary, Kansas State Board of Health.

Methods and Equipment in Milk Production

Rosenau in his book "The Milk Question" says that "clean milk may be produced with clean methods and poor equipment, but good milk cannot be produced with good equipment and poor methods." The truth of this statement is recognized by sanitarians, but experimental proof is scarce. Bulletin 365 of the New York Agricultural Experiment Station by Harding, Ruehle, Wilson and Smith shows that the authors have attacked this question and that they have brought to light some interesting facts. In certified milk dairies much time and labor is expended in washing and clipping cows and in keeping the interior of the stables in a scrupulously clean condition. The authors have obtained surprisingly low bacterial counts, in a large number of samples below 1,000 germs per cubic centimeter, without application of extreme precautions. If the number of bacteria is taken as index, the milk produced was of the highest quality. That milk of this quality is not generally produced under such conditions is illustrated by the fact that a local commercial dairy in which the equipment resembles that of the experiment station, except that steam is not available for treating utensils, quite uniformly turns out a product with a germ content of approximately 1 million germs per cubic centimeter. The difference between the two establishments is that at the experiment station the stable is kept cleaner, the cows are much cleaner, the milkers are clean and the utensils thoroughly steamed. One or more of these factors apparently contribute to bring about the difference in germ content.

The experiments were designed to test the influence of protected milk-pails, plastering or otherwise renovating the interior of the stable, clipping the cow's udder and flanks and cleaning the cows by hand or vacuum cleaner. The influence of protected pails was tested by covering two pails with cloth and leaving two pails uncovered, after having steamed the pails for fifteen minutes. While the milk from the covered pails averaged 922 germs per cubic centimeter, the milk from the uncovered pails averaged 2,391, an increase of 160 per cent.

In order to contrast the effect of old construction under unfavorable conditions with new construction at its best, the dust was allowed to accumulate on walls, ledges and stanchions until they were in as bad condition as would be tolerated under reasonably good barn management. Cows were milked under these conditions and after this study the ceiling and walls down to within 3 feet of the floor were covered with wire lath and two coats of cement. The last 3 feet were covered with zinc. Comparison of 212 samples showed that there was no measurable effect from the change of condition. Only after painting was there a decided reduction in number of germs.

The effect of clipping cows was tested next. The results show that clipping increased the probability of germs finding their way into the milk and no support is given to the idea that clipping the udder and flanks is a valuable aid in the production of sanitary milk. The authors think that brushing or otherwise cleaning the natural coat of the cow removes the loose dirt from the surface and other portion of the hair, while dirt at the base is retained. When the hair is clipped the cleaning process probably removes a larger proportion of dirt, but during the milking process there is little protective covering to retain dirt and bits of dead skin which are constantly breaking loose.

Comparison between cleaning cows with a brush and comb at the rate of two per minute with treatment with a vacuum cleaner at the rate of one per minute showed practically no difference in germ content.

The authors used all necessary precautions to have conditions for all experiments as nearly uniform as possible excepting in regard to the points to be determined.

The important fact which gradually is being recognized through these and other observations is that the production of clean milk with low germ-content is a simpler and less expensive process than has been believed, and it is desirable that the factors governing clean milk production should be better understood.

A Blackmailing Scheme

The following is from an editorial in the *Journal of the Indiana State Medical Association*, Nov. 15, 1913:

> Our attention has been called to what seems to be a blackmailing scheme worked on unsuspecting physicians. We have in our possession three letters, exactly alike as to composition, handwriting and substance, with each signed by a different name and mailed from a different Indiana town. The letter, less names and signatures, is as follows:
>
> .... 1913.
> Dr.....................................
> ....Indiana.
>
> Dear Doctor:
>
> You will no doubt be surprised to get this letter from a stranger, but oh, I am in such awful trouble that I must get help soon or I will go crazy.

I am in a family way, nearly two months gone, unmarried and deserted. That tells the whole miserable story in a few words.

I must get free at any cost, as I would much rather die than have it become known.

Won't you help me or tell me of some one you think would? If you will I will pay you well for it and be forever grateful to you for saving me from worse than death. Please do not be angry with me for asking your aid. I could not bring myself to go to one I know, and I heard a lady from here say you were a good doctor. I feel sure that if you knew all the circumstances and how much this means to me you would not condemn me.

I can make an excuse to get away for a short time and if you can assist me in any way please let me know at once how much it will cost me and how soon I can act.

Kindly use plain envelope
Sincerely yours,
Miss ....
....
....

We are informed that if the letter is answered, a young girl soon puts in an appearance, and no matter what attention is given her, her visit is followed some weeks later by the visit of a man who claims to be a relative of the girl, and who makes the statement that the girl has lost her life through the effects of an abortion, and that on her person was found the doctor's letter, professional card, etc. It is then made to appear that things look bad for the doctor, and that suit will be brought unless the matter can be settled out of court. Whether the doctor is guilty or not, he sometimes is weak enough to yield to the temptation to avoid notoriety, and pays the price that is asked for silence. The fact that several Indiana physicians have received the letter which we herewith reproduce, all of the letters being in the same handwriting, but sent from different towns and with different signatures, lends color to the supposition that a well-devised scheme of blackmail is on foot, and members of the medical profession should be on their guard.

[This would seem also to be a case for the postal authorities.—Ed.]

Surviving Superstitions among the Laity. — Physicians almost daily come across curious superstitions among their patients in regard to medical things which seem to belong to a less enlightened age. They are not always found among the ignorant and uneducated, but often among people of some education and otherwise fairly intelligent. The mental fog or obliquity signified may account in a measure for the vogue of cults and quacks. The *Weekly Bulletin* of the New York City Health Department sets forth some of these traditions and superstitions, racial, religious and otherwise, as encountered by the inspectors and nurses when urging parents to have various physical defects found among schoolchildren treated or corrected. When glasses are suggested for defective vision they are told that eye-glasses are a luxury, that they make the child look old, that they are worn for style, that the child will get used to them, that they will become a habit and the eyes will become weaker, or that they will interfere with the matrimonial chances of the daughter. Objection to the treatment of an ear that has a discharge may be based on the statement that the discharge allows the poison to escape and thus purifies the blood, or that at home the child hears too much anyway. If the parents are urged to have tonsils and adenoids removed it will be said that God put them there and if removed, the throat will be too wide, the air will rush into the lungs and cause inflammation; that the removal of the tonsils will interfere with speech, the singing voice or the procreative power, or that the children will become nervous and depressed, possibly with suicidal tendencies. Among the colored population voodooism is said to be frequent, for the attempt is made to cure diseases of the skin and eyes by the use of yarns of various colors. Suggestion that hair matted by dirt and lice be cut brings the protest that cutting the hair will prevent the growth and diminish the strength of the child. Pulling the teeth, it is said, will cause sore eyes; it is bad luck for any poor child to have gold or silver in the mouth. The "evil eye" is guarded against in some sections by the mother hastily licking the child's eyes and face, expectorating as she does so, or by sewing salt in the child's shirt, or tying red ribbon around the wrist or neck. Weakness of memory is attributed to eating the ends of the bread loaves, and bed-wetting is ascribed to playing with fire or matches before going to bed.

Medicolegal

Suit for Malpractice Not Barred by Judgment in Justice Court for Services

(Barton vs. Southwick (Ill.), 101 N. E. R. 928)

The Supreme Court of Illinois holds that an action for malpractice is not barred by a judgment before a justice of the peace in favor of the physician, in an action brought by him for the services rendered the patient, when the defense of malpractice is not interposed thereto.

It was charged in this case that the defendant was negligent and guilty of malpractice, in that having been called as a physician to attend and prescribe for her while she was suffering from some disorder of the generative organs, which had resulted in what is commonly known as "flooding," he improperly and wrongfully diagnosed her case as one of pregnancy, informed her she was about to have a miscarriage, and proceeded, by the use of various instruments, to attempt to remove the fetus supposed to be present; that the plaintiff was not pregnant, and the defendant was so careless and negligent in the use of such instruments as to lacerate the uterus, thereby compelling the plaintiff to submit to a major surgical operation and suffer the removal of her uterus. The defense in the trial court on the facts was that the defendant employed proper treatment to stop the flooding, that he did not diagnose the case as one of pregnancy, and that he did not insert any instrument into the uterus or attempt by the use of instruments to remove a fetus. The plaintiff recovered a judgment for $2,300, which the appellate court reversed, without considering the merits of the case, because it considered the action barred by a judgment in favor of the physician in a suit subsequently brought by him in a justice's court. Now the Supreme Court reverses the judgment of the appellate court, remanding the cause, with directions to consider the case on its merits.

The Supreme Court says that the New York courts have held that a judgment against a patient, before a justice of the peace, in favor of a physician for his services, is a bar to the prosecution of a suit for malpractice against the physician by the patient, even though no defense of malpractice or any attempt to set off or recoup damages on that account was made at the trial. The courts of some other states have followed the New York cases, but the majority of other courts have only partially followed the New York courts.

This court held in *Howell vs. Goodrich, 69 Ill. 556*, that a judgment in favor of a physician before a justice of the peace, where the defendant appeared and interposed the defense of malpractice, was a bar to the prosecution of a suit against the physician for malpractice, and it would seem from the fact that a justice of the peace in Illinois has no jurisdiction to entertain an action for malpractice, a party having pending or contemplating bringing such a suit in a court having jurisdiction to try and determine it could not be compelled to defend the suit by the physician before the justice of the peace or be barred from prosecuting his suit for malpractice. The inconvenience, if not injustice, of requiring the party to defend against a judgment in the justice's court was referred to in *Resseguie vs. Byers, 52 Wis. 650*, where the court said: "If the plaintiff were compelled to make his defense in the justice's court that the professional services were of no value and that he had been injured by the defendant's negligence, then it would follow that he must either split up his demand, so that there might be two suits, instead of one, on it, or content himself with merely defeating the claim for services, or limit his damages to $200—the extent of the jurisdiction of the justice.

Responsibility on Surgeon Independent of Count of Nurses for Removal of Sponges

(Davis vs. Kerr (Pa.), 86 Atl. R. 1007)

The Supreme Court of Pennsylvania reverses a judgment rendered for the defendant and orders a new trial because it does not consider that it was a sufficient defense merely to show that he relied on a count of sponges made by a nurse The court says that the plaintiff had the defendant perform, at a public hospital, an operation on her for tuberculous peritonitis, when one of the sponges inserted, a piece of gauze about 12 inches in length, through somebody's mistake or negligence, was not removed, but was allowed to remain in the abdomen after the wound had been sewed up, and was not discovered until more than nine months following the operation, when a second operation was required for the removal of the sponge that had been overlooked In this case the defendant, preparatory to closing up the wound he had made, inquired of the nurses whether their count tallied, and whether all the sponges had been removed, and it was only on their replying affirmatively that he closed the wound The evidence would support no other conclusion than that the defendant was misled by the mistaken count of the nurses

Two questions were left to the jury to pass on: first, the credibility of the witnesses who testified that the defendant, before closing the wound, had inquired of the nurses whether all the sponges had been removed, and, second, whether the general system or practice of permitting the handling and counting of sponges by the nurses was reasonable The verdict of the jury was an affirmative finding as to each The court considers only the assignments of error relating to the rulings with respect to the second question

The rule of practice in hospitals to have one nurse take charge of a carefully counted supply of sponges and hand them to the operating surgeon as required, while it is the duty of another nurse to receive them from the operating surgeon after each has served its purpose, and have the nurses, when the operation has been concluded make comparison of those removed with those shown to have been introduced, required no submission to the jury That the precautions it required in order to avoid the serious mistake of allowing a sponge to remain in the abdomen after the wound had been closed were not only reasonable, but wise was not a subject of dispute A verdict of a jury was not needed to give sanction to a rule or practice in surgery adopted and approved so universally by those skilled in the science of surgery But, aside from this, however directly the negligence in this case might be traced to the nurses, the injury complained of could not be referred to the rule, but to the nurses' neglect in applying or observing the rule Therefore, as thus understood, the reasonableness of the rule was not a question in the case

The trial judge should have given the jury a very different understanding of what the reasonableness of the practice involved than that implied in his charge He instructed them "If you determine the custom was reasonable, or the practice, or whatever you choose to call it, custom or practice, among the surgeons, was reasonable, and Dr Kerr followed it then that is the end of the case, and you should return a verdict for the defendant Stop there and return a verdict for the defendant" There was here an unavoidable implication that involved in the rule, as an essential part of it, is exemption of the operating surgeon from liability in all cases in which, as here, the nurses report that their count shows a removal of all the sponges, and the wound is thereupon closed up with a sponge because of their mistaken count of the sponges Indeed, the whole case for the defendant was conducted on this theory, as appeared from the examination of the witnesses

The third point of the defendant was as follows "It being the undisputed evidence in the case that the counting of the sponges, both before and after an operation, was the duty of the nurses, and not of the operating surgeon, and it being further undisputed that the nurses reported to defendant, Dr Kerr, that all the sponges had been accounted for, the verdict of the jury must be for the defendant" The judge's answer was "That is affirmed, if you find that the practice or custom to have the nurses count the sponges is a reasonable and proper custom or practice" The instruction not only misconceived the purpose and object of the rule or practice but treated it as a rule defining the whole duty of the surgeon, limiting his responsibility accordingly Manifestly the only purpose in introducing the approved system or practice was to reduce as far as practicable the hazards to which the one operated on is exposed, by affording additional security against such accidents as here occurred It certainly did not contemplate that the security provided was to be the only security on which the patient could rely for the avoidance of such mishaps, displacing entirely those which had before been recognized, among these the skill and observation of the operating surgeon which had theretofore been employed and relied on to see that all the sponges had been removed It may well be that because of the additional security provided the burden theretofore resting on the surgeon was reduced, that whereas before it was his duty to take accurate count of the sponges, this duty being devolved on the attending nurses, the surgeon is enabled to give closer attention to the work immediately before him The court can well understand how better results can in this way be achieved But before the counting of the sponges by the nurses, and before the wound is closed, is it reasonable to suppose that no duty rests on the surgeon to employ his skill or observation to assure himself that no foreign substance has been allowed to remain within? This defendant did not understand the rule or practice as relieving him from all responsibility in this regard, for he testified that he supposed he had removed all the sponges and pads, and that, "when those were all removed, then my next step was to confirm that supposition by the statement of the nurse whose duty it is to count the sponges and to have her tally with the nurse who is handing the sponges to me, the clean sponges, or the ones that haven't been used" In making the observation which led him to conclude that he had removed all the sponges he was strictly in the line of his duty, and acting in accordance with the rules of the improved practice, according to his own testimony Granting the credibility of his testimony, the only question of fact remaining was Did he, in making his observation, exercise reasonable skill, care, and prudence? The surgeons who testified in behalf of the defendant united in saying that it is only in most exceptional cases, if any that the surgeon is warranted in exploring the restored parts after the count of the sponges by the nurses The court can understand how this is a reasonable rule of practice, but it does not concern the court here

The question related to what preceded the count by the nurses Here the surgeon had reached the conclusion that he had removed all the sponges, a mistaken conclusion, but verified by the nurses' count In reaching his conclusion, did he exercise ordinary skill? The court sees nothing in the evidence to warrant the inference that he did not, but, on the other hand, it finds nothing to warrant the inference that he did, which is far more important, since the burden of showing care was on him Why was a foreign substance left in the parts which the operating surgeon should have removed? It was for him to acquit himself of negligence with respect to it The sponge escaped his observation, why? Was it so hidden and concealed that reasonable care on his part would not have disclosed it, or were conditions such that in his professional judgment further exploration by him for sponges would have endangered the safety of the patient? In a word, did he do all that reasonable care and skill would require? Except as one or the other of these questions can be answered affirmatively from the evidence, the law will presume to the contrary, and attribute the unfortunate consequences to his contributing negligence For all that appeared in the case the retained sponge might readily have been discovered by the surgeon and reasonable prudence and care on his part would have avoided the accident If this were so, clearly his negligence contributed with that of the nurses and responsibility therefor in law attached

Diet —Every food determines a certain amount of digestive work, and when a given dietary is long continued, definite and fixed types of gland activity are set up which can be altered but slowly and with difficulty In consequence, digestive disturbances are often instituted, if a change be made suddenly from one dietary regimen to another, especially from a sparse to a rich diet —Pawlow

Society Proceedings

CHICAGO MEDICAL SOCIETY

Regular Meeting held Dec. 17, 1913

The President, Dr. C. P. Caldwell, in the Chair

SYMPOSIUM ON SURGICAL CONDITIONS OF THE KIDNEY

Pathology of Surgical Conditions

Dr. Henry Albert, Iowa City, Iowa: Accessory renal arteries occur in about 20 per cent. of the cases. Israel and Mayo have called attention to these accessory arteries in the production of hydronephrosis. It is easy to understand how, if the kidney is hypermovable, the ureter may frequently kink over such an accessory artery. Horseshoe kidney is also another anomaly. Such a condition may often interfere with the development of a pregnant uterus, and a pregnant uterus, by pressure on the ureters, may interfere with the flow of urine. Complete anuria is apparently not very common. It is also interesting to know how long a patient may live with a complete anuria. Morris reports cases in which one patient survived seventeen, and another twenty-three days.

Quite obviously, the most common route of infection is the hematogenous by means of the renal artery, the so-called descending infection. We also have infection by the renal vein, but we ordinarily think of ascending infection by way of the ureter. It seems probable that that mode of infection is rather rare. It is possible, however, in two ways—either from passing into the bladder by continuity of tissue along the mucosa, gradually extending up to the kidney, or by the bacteria going into the urine and passing up the lumen. Against such infection there are two obstacles: first, the more or less constant flushing out of the ureters by the downward flow of urine; second, bivalve action of the ureter wall by passing the urine through it. In case of obstruction we have the flushing effect gone, and bacteria once gaining entrance past the area of obstruction may gain access to the kidney, and likewise the bivalve action may be destroyed.

Quite recently Sampson, by injection methods, demonstrated a communication between the blood-vessels of the kidney and of the bladder by means of anastomosis occurring with the blood-vessels of the ureter. He likewise demonstrated a communication between the blood-vessels of the kidney and bladder by way of the blood-vessels of the uterus and ovaries. Serota was in favor of the lymphatic route and has found that the lymph-vessels were principally distributed to the lower pole and pelvis of the kidney. Kumita finds that the most important lymphatic communication between the ureter and kidney was by way of the lymph-vessels communicating with the ureter, going first of all to the capsule of the kidney, and then to the kidney substance. This no doubt explains the cases that have been reported of a cystitis and a perinephritis with multiple abscesses of the kidney without any involvement of the ureter. Frank has also demonstrated some lymphatic communications between the ascending colon and the kidney in rabbits, but I have not seen any confirmatory evidence of his work. It seems from the work of Stewart on the production of infection in cases of transplantation of the ureter into the intestines, in which there is very good opportunity for bacteria to pass upward, that the most important of the ascending groups of infection is by way of the lymph-vessels rather than by way of the ureter.

While tuberculosis of the kidney is always a secondary process, nevertheless, tuberculosis, as regards the urinary organs, is no doubt almost always a primary process in the kidney. The chronic localized or ulcerative form appears to be for a long time a unilateral process; but if it continues for a long time it becomes more and more marked and also involves the other kidney. There is some question as to the route by which the other kidney is most affected, whether by ascending infection or by way of the blood-vessels. It seems most likely that it is an ascending process; that is, tubercle bacilli in the bladder gaining access through the ureter and passing up, but it seems from studying many specimens that the other is the more common route.

The most interesting of all kidney tumors is hypernephroma. It is supposed to have its origin in the adrenal structure, and is, as a rule, quite well encapsulated from the kidney. There has been some discussion by Adami and Wilson as to the origin of these tumors, but I believe that the term "hypernephroma" should be applied to those tumors, however rare, which really have their origin from the adrenal gland structure.

Methods of Diagnosis in Surgical Conditions

Dr. Bransford Lewis, St. Louis: Many evidences, widely accepted as pointing to kidney disease, do not justly command such a position. Some have no relation to kidney disease, while others mislead as to which kidney is diseased and which is healthy. Nine-tenths of the instances of pain in the back come from muscular rheumatism or some such simple cause, without any involvement of the kidneys. Thus, this symptom, which is widely credited by the laity, is recognized as a fallacy in that light by the profession; but the profession in general is not so familiar with the oft-noted fact that pain arising in a diseased kidney may be transferred or reflected into the healthy one, affording material, but possibly very misleading, evidence in the case. This is a comparatively frequent source of error in renal surgical cases. In the necropsy room kidneys are found riddled and honeycombed with pockets and cavities containing stones, but with never a characteristic renal symptom in the record. On the other hand, I have seen numerous instances in which symptoms and signs were typical of renal or ureteral stone, and yet subsequent developments proved that no stone was present. The attack was due to uric acid crisis and renal irritation.

There is one condition of renal pathology in which symptoms seem to outweigh the signs in certain respects, namely, acute hematogenous infection, in which the affected kidney is so overwhelmed with the toxic effect that not only does it fail to give the alarm by pain, but also its functional activity may be suspended, and it fails to give material evidences in the urine, such as blood and pus. In such cases the symptoms are those of toxemia rather than of acute nephritis or pyelonephritis, as ordinarily understood. Yet even in these, as in cases of unilateral anuria from blocking of the ureter, the very absence of urine from that side, as determined by ureteral catheterization, is negative evidence of great value, and is to be learned by ureteral catheterization.

How are we to view and utilize the attendant symptomatology when present in studying renal cases? The many symptoms taken collectively should direct the physician's attention to the necessity of making a complete physical examination. The steps of a physical examination for disease of the upper urinary tract necessarily vary according to the circumstances of each case, but they should embrace measures and means that will furnish definite and accurate information regarding the physical condition and functional activity of the organs involved, together with those of the allied organs, the heart, liver and digestive apparatus.

Functional Tests and Their Importance in Renal Surgery

Dr. E. G. Mark, Kansas City, Mo.: Most of the various tests proposed for the purpose of determining the functional capacity of the kidney have fallen into a state of desuetude. Cryoscopy, while severely criticized by Israel, Robson and others, is still employed by many. It should not be advocated as being absolutely dependable, but it is of great value. One of the strongest arguments in its favor is its practicability as a routine measure. Instruments of the highest degree of perfection must be employed, as even under the best conditions the possibility of error is great. The phloridzin test has been proved by Caspar and Richter to be valuable, but, as in cryoscopy, it can in no way be considered dependable. The newest test, the phenolsulphonephthalein test, has had a surprisingly wide acceptance, and the findings of the different investigators have been remarkably constant. It is simple of performance and requires no particular refinement of technic. It is my belief that it is by far the most reliable and valuable of the so-called kidney function tests, and in my hands the findings have been most striking and dependable. I have by choice employed the intravenous method of injection, although I see no objection to the intramuscular technic. Microscopic amounts of blood in the urine may interfere with accurate readings. The advantages claimed for this test are: (1) complete elimination of the drug by the kidney; (2) early appearance of the drug in the urine following administration; (3) rapid excretion of the drug by the kidney, necessitating observation for only one or two hours; (4) brilliancy of the color which is imparted to the urine, and which is not readily influenced by the coloring matter of the urine itself; (5) the possibility with which this drug makes accurate quantitative examination possible; (6) simplicity of technic; (7) absolute non-toxicity of the drug; (8) non-irritating quality of the drug, and (9) absence of extra strain placed on the kidney during the test.

None of the tests are absolute or infallible, and repeated tests should be made. Further, let me urge the importance and common sense of thorough clinical observation, from all points of view, and the value and necessity of the older and generally accepted means of qualitative and quantitative urinalysis.

The Treatment of Surgical Diseases of the Kidney

Dr. L. W. Bremermann, Chicago: The treatment of these diseases resolves itself into three very important factors, namely, when not to operate, when to operate, and what definite method of operation to employ. To my way of thinking, when not to operate is of greater consequence than any of the other methods of treatment already mentioned. It depends entirely on the diagnosis and the extent of the pathologic process—also on whether the lesion is unilateral or bilateral; on whether there may be a congenital renal defect demonstrated as a single organ, a fused or horseshoe organ, etc., and on whether the renal lesion may be secondary to a lesion elsewhere in the body, producing such an amount of constitutional impairment that surgical treatment would be followed by disastrous consequences. With correct recognition of the scientific facts discovered by our method of diagnosis, we may find conditions which will not warrant hasty treatment of a surgical character, yet with the institution of medical, hygienic and dietary measures the lowered resistance of the patient may be so improved and the functional capacity of the kidneys may be restored to such an extent that surgical treatment may subsequently be carried out safely.

From the point of view of when not to operate, the surgeon must weigh carefully all of the facts at hand; whether the condition is unilateral or bilateral, the degree of mobility, the amount of danger of destruction of the organ and the character of the symptoms. In bilateral renal tuberculosis it is the opinion of some that an operative procedure should be performed on the organ which shows the greater amount of destruction, yet great judgment from large experience is necessary before one can decide absolutely whether nephrectomy or a nephrotomy should be done. I believe that the patient has a far better chance of recovery if a nephrectomy is done in this type of cases—followed by constitutional hygienic and dietary treatment, including the careful and scientific administration of vaccines and tuberculin. In cases of definite unilateral tuberculosis, in which a nephrectomy is indicated from the study of the patient, careful after-treatment, including tuberculin, is always indicated, and must be carefully attended to, as it is the consensus of opinion among urologists that renal tuberculosis is secondary to tuberculosis elsewhere in the body, although many times the primary focus cannot be located clinically.

When to operate depends entirely on exclusion and one arrives at a definite opinion only after all of the factors revolving around the question of when not to operate have been considered and cast aside. The operative technic depends on the judgment of the individual operator to a great degree. I believe that for our opinion regarding the proper surgical procedure we are dependent on the estimation of the renal functional capacity more than on any other feature.

The treatment subsequent to all surgery on the kidney is vastly important. In all cases of renal pathology accompanied with infection, in which the bladder may be involved secondarily, a careful study of the case will clearly show the nature of the infection. Autogenous vaccines may be prepared and administered, together with hygienic and dietary measures. Likewise, in renal tuberculosis with mixed infection the same mode of treatment should be carried out, accompanied, of course, as before said, by the use of tuberculin. Every phase of the cases under observation should be taken into consideration. All points should be considered from the patient's point of view, and with the idea of prognosis continually in the mind's eye, for the purpose of reaching favorable end-results. The surgery of the kidney and urogenital tract has advanced more in the last decade than any other branch of surgery, from the point of view of diagnosis and treatment, placing the work on a thoroughly scientific basis, so that the mortality has been markedly reduced. Every method and diagnostic aid must be employed, so that this mortality will be further decreased and more favorable results be obtained, particularly on account of the possibility of earlier diagnosis from an increased knowledge of genito-urinary surgery among general practitioners.

DISCUSSION

Dr. F. Kreissl: In the diagnosis of distentions of the renal pelvis, of hydronephrosis and pyelitis, with distention of the renal pelvis, I admit that the injection of collargol, followed by roentgenography, is a very efficient means of demonstrating the real condition present, but years ago I devised a simple means to arrive at the same diagnosis. If a ureteral catheter is introduced into a normal renal pelvis which is not distended, a few drops of urine are found coming out; but if the urine is found coming out as if through a catheter introduced into an overdistended bladder, the renal pelvis is distended. From the quantity collected in this way the exact size of the distended renal pelvis can be estimated.

I have noticed that whenever anything is said about the diagnosis of the function of the kidney, there is one point overlooked, namely, not to establish what the kidney will do ordinarily, but to establish what it will do when put under a special strain. It is important for us to know in what condition the other kidney is before we perform a surgical operation on the kidney. If we want to perform a nephrotomy it is important for us to know not only the condition of the kidney to be operated on, but also that of the other kidney. Why? The question might come up, Is the condition of the kidney to be operated on such that it is desirable to preserve it or that it becomes imperative to preserve it? I merely refer to those cases in which bilateral kidney disease exists. When it comes to nephrectomy, it is absolutely necessary for us to know what the kidney will do under ordinary circumstances, if functionally intact, and if it has enough latent or reserve force to take up the functions of both kidneys after the operation.

It is agreed by a large majority of men engaged in kidney surgery that cryoscopy, not alone, but in combination with experimental polyuria, is a reliable means of establishing a diagnosis. I have not done very much work with the phenolsulphonephthalein test, but from what I have seen and heard I believe that it ranks practically as high as the combination of cryoscopy and experimental polyuria.

Dr. William Fuller: I think that if early diagnosis of kidney and ureteral lesions is accomplished we shall change our surgery of the ureters and kidney, and that we shall see more of those cases which indicate a partial nephrectomy, for such lesions as tuberculosis of the kidney. I am sure that in some cases there are isolated foci of tuberculosis in the kidney, and that such patients will recover just as quickly with partial as with total nephrectomy. We do not think of removing the entire shaft of the bone for localized tuberculosis; neither should we think of removing a kidney for tuberculosis in one part of the organ. Early diagnosis is the thing in kidney surgery. If we can make it accurately, and early enough, we shall find an opportunity for partial nephrectomy.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Fourth Annual Meeting, held in Washington, D. C., Nov. 14-17, 1913

(Continued from page 66)

Heat and Infant Mortality

Dr. J. W. Schereschewsky, Washington, D. C.: The most significant phenomenon in connection with the mortality of infants is the great increase of their deaths in the summer months. This increase is most marked in countries where the winters are cold and the summers hot. It may be absent in lands where the summers are habitually cool or in the tropics where there are but slight variations in the mean temperature throughout the year. In countries with cold winters an increase in infant mortality is perceptible whenever the mean temperature rises above 20 C. (68 F.). The deaths of infants show a striking parallelism with the curve of maximum temperatures, being numerous when the daily maxima are high and diminishing where they are low. This parallelism is most strikingly manifest in the first part of the summer. This phenomenon, however, holds good only when we compare the total infant deaths with the temperatures. On the other hand, when the deaths from intestinal diseases alone are compared with the maximum temperature, the early summer heat brings no great increase in their number. The death-curve from these diseases lags behind the curve of maximum temperatures to rise with almost explosive violence later in the summer, reaching its apex in July or August, according to the locality, and slowly declining through September and October. From 80 to 90 per cent. of the infants dying from intestinal diseases are artificially fed.

The great summer mortality of infants can be explained by three hypotheses only. The infants are killed: (*a*) directly by the heat; (*b*) by the action of stale or dirty milk and the contained bacteria, or (*c*) by specific infections.

The action of heat as a direct cause in the death of infants has hitherto been greatly underestimated. The lethal action of heat is a function not so much of the maximum and mean temperatures of the external air as of the indoor temperatures. The action of dirty and stale milk in causing the death of infants, while undoubtedly a contributory factor, has been given an importance which has overshadowed other factors of equal or greater significance. There is evidence to show that a certain proportion of infant deaths is due to specific infections, in the dissemination of which, contact infection and flies doubtless play a part. As a result, future activities for the prevention of infant mortality must concentrate themselves to a greater extent on the question of housing, especially with respect to the factors of overcrowding, narrow streets and presence or absence of thorough ventilation. The general public should be educated as to the importance of these factors in causing infants' deaths, and especially as to measures which will prevent children from suffering from the heat. Breast-feeding must still be regarded as a most, if not the most, important factor in reducing infant mortality.

DISCUSSION

Dr. T. B. Cooley, Detroit: There is a very obvious relation between summer heat and infant mortality. A great portion of the increased mortality during the summer is due to the action of summer heat in lowering the power of resistance of the child to certain factors, such as overfeeding, ill-judged feeding and spoiled food. Then comes the lower resistance of the child to infection and to the poisonous food elements. The troubles are chiefly indirect. We do not yet understand just how that indirect effect is produced. We do know that a great part of that effect can be avoided by improving housing conditions.

It is a very striking fact that almost the only thing which has been done that has had the effect to lower summer mortality has been the improving of housing conditions rather than improvement in the milk conditions. Housing conditions, heat, moisture, etc., inside of the house, and summer hygiene, aside from the question of feeding, must be attacked first. I think that a great deal of harm has been done by overemphasis on bad feeding. A large number of the general practitioners still believe that summer diarrhea is due to bad milk. So long as the profession continues to attribute summer diarrhea to that cause, not enough attention will be paid to the other causes of high summer mortality of infants.

Dr. I. A. Abt, Chicago: Several years ago I presented a paper on this subject at a meeting of the Section on Diseases of Children of the American Medical Association, which met in Los Angeles, and a great many doctors wondered what I was talking about. Those from New Mexico and Arizona and Southern California said that they had no such experience; they had no summer mortality. So there must be something besides the heat. There must be such an element as humidity that is not thoroughly understood. I think that some of these conditions are due to the debility caused by the heat. Every one is prostrated and not able to do his best, and that is true throughout the temperate zone. I presume that the baby feels it, especially if he is living in an insanitary home, or has been treated badly all winter. Babies bear extremes of temperature badly. Nobody has studied the effect that cold would produce. I do not believe that a baby would be able to stand excessive cold any more than excessive heat. Every one knows that arctic explorers are rendered feeble, and many die on account of the effects of long-continued cold, and those who travel in the tropics tell us that the debility is very great. Dr. Epstein has had a large number of deaths in his infant asylum. It seems to me that we make little progress when we tell people that dirty milk is bad and clean milk is good. Then without good and sufficient reasons are we willing to say it is not the milk at all? I think the best and the purest milk is none too good for the babies. I am in favor of pure certified milk.

Dr. Herman Schwarz, New York: We want not only good milk, but we want everything else that is good. Dr. Cooley certainly means that we should have pure milk, and I agree with him that pure milk is not the only thing. We need proper housing and adequate ventilation. In certain towns where the wind was in a certain direction, summer mortality was not known. As long as our houses are built as they are, block on block, we shall have summer infant mortality. We have not had enough cases yet to talk about. If there is a high temperature in the beginning of the summer, say in June, it will be found that infant mortality will be greater in July and August than it would be if June were not so hot. Those children have something in the beginning that reduces their vitality, and later on they cannot resist the heat and they die under even less heat as a result of the continued tax.

Dr. W. C. Woodward, Washington, D. C.: It is late in the day to begin to discuss the relation of milk to infant mortality. The data pertaining to that subject are too numerous and too definite to permit of two opinions to any one who is familiar with the subject. This does not mean that there may not be other causes that contribute to infant mortality. It does not mean that housing is not one of these contributing causes. I should like to offer to any member of the association who is interested in statistical study a statement published in the annual report of the health department of the District of Columbia, showing the number of deaths of children for the period from 1882 to 1902, by days, during the first five days of life. You will find in the same table for the same dates a statement of the dry-bulb thermometer, a statement of the wet-bulb thermometer, and the wind at 8 a. m. and 8 p. m.

Dr. F. W. Pinneo, Newark, N. J.: When we started a rather extensive infant-consultation service in Newark, many of the infants that came to us the first summer had diarrhea and continued to have it in spite of what we gave them. The next summer very few came with diarrhea, and during the past two summers we hardly ever had a case of diarrhea. I believe that the diarrhea at first was due to the fact that the babies had been fed improperly and with poor judgment. The main thing is to feed the infant correctly from birth.

We have emphasized in our work that at the first approach of warm weather the feeding must be cut down.

Infant Mortality in the Light of Eugenic Ideals.

Dr. H. E. Jordan, Charlottesville, Va.: In organic development both heredity and environment are absolutely essential; moreover, the action of the one complements that of the other. If the environment is baneful or deficient in any one of many possible ways, one expression of the effect will be in increasing infant mortality. Similarly, if the inheritance be of low quality or defective the prevalence of infant mortality will be extended. About 10 per cent. of our population is estimated to be defective and so a racial menace. If we succeed in raising all infants, obviously some unfit stock will be raised to reproduce its defective type, thus working injury to the race. Theoretically, a certain small amount of differential infant mortality must obviously be a good thing. But even if morally and socially allowable—which it is not—no discriminating procedure would be practical, for it is impossible by present means to distinguish absolutely and certainly in early infancy between the potentially fit and strong and the grossly unfit and weak. We cannot lower our ideal. The same serious effort must be made to rear all infants. But at the same time we must recognize the fact that some unfit stock, reproducing in geometric ratio, is thus saved to reproduce its defective type and to contaminate the race. This simply means that our efforts for infant conservation must be extended to embrace an interest also in potential parents and to seek means to prevent reproduction on the part of those seriously deficient racially. Our efforts may defeat our aims unless the mass of the babies we save are racially of sound stock.

Dr. Henry Schwarz, St. Louis: Taking care of the health of prospective mothers and preparing them physically and mentally for their task of nursing and raising their offspring is the first and the most important step in the conservation of infant life. At present only a small percentage of expectant mothers receive proper attention during gestation, and every year thousands of mothers and babies die or are permanently injured, whose lives and whose health could have been preserved by reasonable prenatal care. Factors at work to bring about a betterment of conditions includes improvements in obstetric teaching; establishment and extension of obstetric dispensaries, and attempts to impart much-needed information to expectant mothers through the missionary educational work of prenatal nurses, and through the publications of the United States Children's Bureau.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

December, LXVIII, No. 432, pp. 1017-1244

1 Cesarean Section: Consecutive Series of Cases. A. B. Davis, New York.
2 *Thyroid Tissue Tumors of Ovary: Report of Case. G. W. Outerbridge, Philadelphia.
3 *Histogenesis of Sarcomatous Change in Uterine Fibromyomas. S. H. Geist, New York.
4 Treatment of Sterility by Dudley-Reynolds Operation. F. C. Holden, Brooklyn.
5 Adventitious Tissues of Abdominal Cavity. R. T. Morris, New York.
6 *Diagnostic and Therapeutic Value of Renal Catheter. K. I. Sanes, Pittsburgh.
7 *Renal and Ureteral Calculi. H. D. Furniss, New York.
8 Exophthalmic Goiter and Pregnancy. G. Gellhorn, St. Louis.
9 *Treatment of Placenta Praevia by Cesarean Section. When, If Ever, Is It Justifiable? R. McPherson, New York.
10 *Advantage of Cesarean Section Over Other Procedures in Border-Line Cases. J. W. Poucher, Poughkeepsie, N. Y.
11 *Significance of Hematuria and Its Management. J. G. Sherrill, Louisville, Ky.
12 *Acute Unilateral Hematogenous Nephritis. C. S. Foster, Pittsburgh.

2. **Thyroid-Tissue Tumors of Ovary.**—In certain ovarian tumors, as for instance those cited by Outerbridge, there occur areas of tissue which cannot be distinguished histologically from that of the thyroid. Between tumors which show a complex teratomatous structure, containing among numerous other elements a small amount of thyroid tissue, and those composed solely of this, there is no sharp dividing line. All these tumors are of similar genesis; they are teratomas, with varying degrees of suppression of the ectodermic and mesodermic elements. The large majority of these tumors are clinically benign; the few which are malignant show, in most instances, areas of unmistakable irregularity in their cellular structure, or give other histologic evidence of having assumed a destructive type of growth. The thyroid tissue in the ovary is of no functional significance, at least in the vast majority of cases, and these growths give rise to no symptoms other than those which would be produced by any type of ovarian tumor of equal size. The term "teratoma thyroidiale ovarii" is suggested as the most satisfactory designation for those tumors in which the thyroid tissue forms the dominant feature. Almost fifty recorded cases are analyzed.

3. **Sarcomatous Change in Uterine Fibromyomas.**—In a study of 250 cases of uterine and cervical fibromyomas Geist found that twelve showed sarcomatous changes of various types. In most instances (9 cases) the myomas were multiple with a solitary focus of sarcomatous change. In but one instance were there multiple sarcomatous areas. Microscopically the sarcomas presented either pure spindle-cell type (5 cases), pure round-cell (1 case), or a mixture of both (6 cases). The latter type contained varying numbers of giant cells. In two of his twelve cases sarcomas were found in fibromyomas, where he could trace the progressive stages of the transition from normal muscle into sarcoma. The narrow muscle cells with their slender nuclei become larger, broader and more rounded, the nuclei also become larger, the chromatin gradually increasing in amount. In some cells the chromatin is irregularly arranged in small masses, in others it is more uniformly distributed in one large rounded or elongated mass occupying almost the entire cell. Occasional mitotic figures are seen in the transitional areas, the number of which gradually increases until in the midst of the sarcoma tissue one can often find two or three figures in each field. In the transitional zones the cells keep within the bounds of the normal fascicular arrangement and direction of the muscle bundles. In these two cases Geist was able to trace the transition from the myomatous tissue of the fibromyoma into sarcoma, and he says there can be no doubt raised as to the origin of the sarcoma from the muscle cells of a fibromyoma.

6, 7, 9, 10, 11 and 12. Abstracted in The Journal, October 4, pp. 1321 and 1322.

Annals of Surgery, Philadelphia

December, LVIII, No. 6, pp. 721-986

13 *Studies in Blood-Pressure before, during and after Operations with Reference to Early Recognition, Prevention and Treatment of Shock. J. C. Bloodgood, Baltimore.
14 *Tumors of Carotid Body: Report of Case. J. G. Callison and J. E. Mackenty, New York.
15 Early Diagnosis of Hydronephrosis by Pyelography and Other Means. J. W. T. Walker, London.
16 Value and Limitation of Diastase, Urea and Phthalein in Estimating Renal Function in Association with Ureteral Catheterization. J. T. Geraghty, L. G. Rowntree and F. S. Cary, Baltimore.
17 Case of Pelvic Kidney: Diagnosis before Operation. G. J. Thomas, Rochester, Minn.
18 Myoma of Stomach. J. H. Outland and L. Clendening, Kansas City, Mo.
19 Primary Sarcoma of Large Intestine. R. E. Farr, Minneapolis, Minn.
20 Non-Rotation of Intestine. A. S. Vosburgh, New York.
21 Anatomy of Case of Carcinoma Recti. T. W. Todd, Cleveland.
22 Strangulation of Undescended Testis. C. E. Farr, New York.
23 Case of Sarcoma of Chest Wall. J. F. Baldwin, Columbus, Ohio.
24 Retrorectus Laparotomy Incision and Closure. J. J. Moorhead, New York.

13. Abstracted in The Journal, May 21, p. 1737.

14. **Tumors of Carotid Body.**—The authors review sixty cases of tumors of the carotid body recorded in the literature,

including their case. In the 60 cases, 4 have been found at autopsy. Two were examined post mortem, although the existence of a tumor had been known when death occurred from other cause. The remaining 54 cases have come to operation. In 4 the tumor was laid bare, only to find such extensive involvement that nothing could be done. All three carotids were ligated in 32 cases, the external only in 7 cases. In 15 cases the tumor was dissected away from the common or internal carotids after ligation of the external. In 8 cases recurrence took place, in 6 of these after the tumor had been dissected away from the blood-vessels, in 2 cases after complete removal of all the carotids. In 1 patient examined after death there were metastases in the liver. Of the 54 patients operated on, 42 have recovered and 12 died. But to these 12 deaths must be added 4 from recurrence and 6 other speedy deaths in prospect from recurrences known to exist when the case was reported, or 22 deaths in 54 cases. In 1 other case the patient probably died as a result of the tumor.

The causes of death have been: In 4 cases, pneumonia, in all of which the pneumogastric was divided or resected at the operation; in 3 cases, hemorrhage; in 2 cases, cerebral anemia; in 1 case, acute edema of the lungs; not stated, in 1 case; in 1 case, septicemia; in 1 case, infection and hemorrhage. In addition to this mortality, however, other accidents have arisen in the patients who survived. In 4 cases, the patients have had hemiplegia with aphasia. In 4 the voice has been affected, and there has been more or less dysphagia. In one there has been such tracheal irritation as to produce a constant cough. In 5 the tongue has deviated to one side. In 4 there has been an altered pupil, in 1 conjunctival injection. In 4 cases the face has been party paralyzed.

Archives of Diagnosis, New York

October, VI, No. 4, pp. 309-404

25 Value of Roentgenoscopy in Obstructions of Esophagus. W. H. Stewart, New York.
26 *Cardioneurosis. R. Abrahams, New York.
27 *Manifestation of Hypothyrosis not Heretofore Described. H. Stern, New York.
28 *Periodical Soreness of Tongue and Gums—an Early Symptom of Pernicious Anemia. H. Stern, New York.
29 Diagnosis of Cervical or False Rib. S. P. Goodhart, New York.
30 Susceptibility of Cataleptic Suggestion an Early Sign in Typhoid. E. E. Cornwall, Brooklyn.
31 Diagnosis of "Arteriosclerosis." L. F. Bishop, New York.
32 Diagnosis and Prognosis of Gonorrheal Arthritis. S. Epstein, New York.
33 Differential Study of Prurigo Nodularis and Urticaria Perstans. R. L. Sutton, Kansas City, Mo.
34 *Is There Any Reason Why Ophthalmo-Tuberculin Reaction Should Be Abandoned? J. Gutman, Brooklyn.
35 Symptomatology and Diagnosis of Malignant Strictures of Rectum. E. Ruge, New York.
36 *New Diagnostic Sign for Lesions at Pylorus. P. G. Skillern, Philadelphia.

26. **Cardioneurosis.**—Generally speaking, Abrahams says, cardioneurosis planted on an organic lesion is fairly amenable to treatment. The organic trouble gives one an excuse for putting the patient to bed, and rest in bed is an essential part of the treatment of neurosis. Disturbance minus a lesion is also a reason for sending the patient to bed, but the patient will argue against it and his opinion, in the long run, prevails. Some things, at least, are within our power to recommend: early to bed; avoidance of excitement; abstinence from coffee, tea and tobacco; scrupulous regard for overfeeding and sluggish action of the bowels. Cardiac stimulants such as digitalis, strophantus and the members of the coffee family are harmful, unless, of course, the disturbance is a natural expression of a heart lesion; if so, that would be a matter of diagnosis. Sedatives are more useful and the best to Abrahams' knowledge is ammonium bromid in doses of 15 grains three times a day, or one dose at bedtime. Massage and hydrotherapy are useful; the Nauheim bath, both the real as well as the homemade one, is useless. Diuretin in 5-grain dosage three times a day is valuable in cases in which the neurosis is associated with arteriosclerosis. With causes so varied, with manifestations so complex, Abrahams concludes that each case of cardioneurosis shall be considered an entity and be studied in its kaleidoscopic patterns.

27. **Hypothyrosis and Urinary Tract.**—In four cases of hypothyrosis with urinary symptoms, that Stern examined cystoscopically, anatomic alterations of apparent hypothyrogenous origin could be demonstrated. That the alterations in the bladder or urethra were entirely dependent on the hypothyroid state was evidenced by their decline and increase corresponding to the fall and rise of the other hypothyroid phenomena on the exhibition or withdrawal of thyroid preparations. That the urinary symptoms were caused by the hypothyroid modification of the local structures became manifest by their disappearance when the local process abated, and their reappearance on the recurrence of the mucosa infiltration. The mucous membrane was edematous and swollen. Stern suggests that in cases of frequent or painful micturition a general hypothyrotic state with manifestations in the lower urinary tract must be thought of, and that a cystoscopic examination of the latter be made. Further, that, possibly frequent or painful micturition may be an early, and as such for a time the only subjective phenomenon of import in hypothyrosis, and that a cystoscopic examination be undertaken. Finally he points out that enuresis in children as well as in adults may be due to a hypothyrotic or kindred origin, that the cures of such cases after the administration of thyroid substance, as reported by French and other physicians, may be due to the disappearance of myxedematous swellings from the lower urinary tract, and that in instances of persistent bedwetting a cystoscopic investigation be insisted on.

28. **Early Symptom of Pernicious Anemia.**—Periodical soreness of the tongue, gums and palate, Stern believes, is without question the most reliable of the inaugural symptoms of pernicious anemia. For some time this symptom has been known to occur in the course of the affection, at a stage when its clinical and hematologic picture is fully developed. Stern has observed this symptom in the initial stages of two cases of genuine pernicious anemia, one of which has since terminated lethally, and in another apparent case of the affection which is still under observation in which, however, the blood-picture is not absolutely characteristic.

34. **Ophthalmo-Tuberculin Reaction.**—Gutman favors the ophthalmo-tuberculin reaction. He says that the test is absolutely without danger, safe, very reliable and serves the purpose as well if not better than the Pirquet. He does not know of a single case in which the test has proven dangerous. He cautions, however, that the test should never be applied to an eye unless nothing wrong is found about it. If one eye is in good condition while the other one is not, the test may be applied to the good one.

36. **Diagnostic Sign for Lesions at Pylorus.**—A small, circumscribed spot of "wincing" tenderness, Skillern says, is a common sign in gastric ulcer. With the patient reclining and the stomach empty, mark on the skin the site of the "wincing" tenderness. Now inflate the stomach with air. The pylorus shifts, carrying the spot of "wincing" tenderness with it. The lesion, then, must be in the pylorus and not elsewhere. This lesion is probably an ulcer of the pylorus. If the spot of tenderness does not move, the pylorus is either not involved or, if involved, is firmly anchored by adhesions, and these adhesions are due more often to infection of the biliary tract than to pyloric ulcer.

Arkansas Medical Society Journal, Little Rock

December, X, No. 7, pp. 167-190

37 Treatment of Trifacial Neuralgia by Intraganglionic Injection of Alcohol (Hartel's Method). U. Maes, New Orleans.

Boston Medical and Surgical Journal

December 25, CLXIX, No. 26, pp. 929-956

38 Medical and Social Aspects of Mental Disease Due to Alcohol: Notes of Conference Held at Psychopathic Hospital, Boston, before Legislative Commission on Drunkenness, Nov. 24, 1913.
39 Work of Massachusetts Legislative Commission on Drunkenness, 1913. M. J. Murray, Boston.
40 Report of Clinical Demonstration of Alcoholic Mental Diseases, with Remarks on Current Practice at Psychopathic Hospital, Boston. H. M. Adler, Boston.
41 Consensual Amyosis to Blue Light as Shown in Alcoholic Cases. G. E. Eversole, Boston.

42 After-Care and Moral Suasion Work with Alcoholics in Outpatient Department of Psychopathic Hospital. A. W. Stearns and M. C. Jarrett, Boston.
43 Institutional Requirements for Acute Alcoholic Mental Disease in Metropolitan District of Massachusetts in Light of Experiences at Psychopathic Hospital. E. E. Southard, Boston.
44 Alcoholic Amentia. A. W. Stearns, Boston.

California State Journal of Medicine, San Francisco

December, XI, No. 12, pp. 475-510

45 Debt of Human Embryology to Practitioner. A. W. Meyer, Palo Alto.
46 The Ideal Hospital. D. Gochenauer, San Diego.
47 *Implantation of Joints. L. Eloesser, San Francisco.
48 Toxic Effects of Salvarsan. G. E. Ebright, San Francisco.
49 Iritis. V. H. Hulen, San Francisco.
50 Auricular Fibrillation. H. W. Allen, San Francisco.
51 Futility of Cardiac Stimulants in Shock. S. T. Pope, San Francisco.
52 Traumatic Retroperitoneal Displacement of Duodenum; Absolute Obstruction Developing Gradually Therefrom; Gastrojejunostomy; Duodenumjejunostomy; Recovery. L. W. Allen, San Francisco.
53 How to Read the Pneumothorax Manometer. E. Von Adelung, Oakland.

47. **Implantation of Joints.**—Implantation of joints in Eloesser's opinion is a feasible and useful procedure. Much of the implanted bone becomes necrotic; it is not shed, however, but amalgamates, and is absorbed and replaced by living bone. A small part of the implanted bone remains alive, viz: the superficial inner and outer layers. Much of the implanted periosteum and endosteum remains alive, and is probably the source of the new bone. A subsequent arthritis deformans does ont seem to develop in the new joints. The fresh cadavers of patients who have died suddenly of a noninfectious disease should be used. Absence of infectiousness should be assured by bacteriologic and serologic tests. Eloesser cites two cases.

Canadian Medical Association Journal, Toronto

December, III, No. 12, pp. 1027-1122

54 Diseases of Stomach. A. McPhedran, Toronto.
55 Retention of Gastric Contents. C. D. Aaron, Detroit, Mich.
56 Pyloric Spasm. C. G. Stockton, Buffalo.
57 Clinical Aspects of Gastric Disease. C. F. Martin, Toronto
58 Frontal Tumors. R. W. Mann and J. Loudon, Toronto.
59 Bone Staple-Plate. J. K. McGregor, Hamilton, Ont.

Cleveland Medical Journal

December, XII, No. 12, pp. 801-881

60 Surgery of Seminal Vesicles. J. B. Squier, New York.
61 Efficiency Test of Dispensary Treatment of 100 Cases of Gonorrhea. H. L. Sanford, Cleveland.
62 Complement Fixation Test in Gonococcus Infection. H. L. Rockwood, Cleveland.
63 Possible Surgical Control of Kinetic System. G. W. Crile, Cleveland.
64 Edema of Macular Area of Retina with Report of Case. C. C. Stuart, Cleveland.
65 Case of Concussion Cataract. D. A. Prendergast, Cleveland.
66 *Mechanism of Action of Hexamethylenamin. P. J. Hanzlik, Cleveland.

66. **Hexamethylenamin.**—Following the administration of hexamethylenamin, Hanzlik found that the substance itself can be detected in all of the body fluids. Free formaldehyd does not appear in any of the body fluids which are neutral or truly alkaline. This includes blood, cerebrospinal, pleural, pericardial and synovial fluids, aqueous and vitreous humors, saliva, bile and some urines. Urines which are truly acid and contain hexamethylenamin practically always contain formaldehyd. Urine is the only body fluid, except gastric juice, which exhibits true acidity, hence it is here only that liberation of formaldehyd from hexamethylenamin can take place. The same general law applies to pathologic fluids. From the correlation of chemical experiments with bacteriologic and clinical data, Hanzlik states that hexamethylenamin acts as an antiseptic only in proportion as it liberates formaldehyd, and that this liberation can only occur when the reaction is truly acid.

Free formaldehyd is an efficient bactericide in comparatively high dilutions. Such an efficient concentration can be attained in normally acid urine. It is only in vesico-urinary conditions where one can expect any beneficial therapeutic action after the administration of hexamethylenamin, because urine is the only body fluid whose reaction may be altered, if necessary, to such an extent that liberation of formaldehyd with other body fluids in as much as their neutrality or a slight tendency to alkalinity is rigidly maintained. No beneficial therapeutic responses therefore are to be expected in meningeal infections; infections of the cerebrospinal fluid or about the spinal cord, bile or biliary passages; or of the infections of the ear, eye, synovial, pericardial or pleural fluids. On account of the rapid absorption of hexamethylenamin and of the usual alkalinity of the bowel contents, no bactericidal action can be expected in the intestinal canal.

It was also shown in Hanzlik's experiments that the administration of monosodium phosphate (NaH_2PO_4) does not alter the reaction of the fluid from the intestines, and that the hexamethylenamin present under such conditions passes through the bowel unchanged. However, the administration of the monosodium phosphate increased the true acidity of the urine and the concentration of formaldehyd in such a urine containing hexamethylenamin is markedly increased. Therefore in the urine an opportunity presents itself to increase the efficiency of hexamethylenamin therapy. This can be accomplished by the administration of the monosodium phosphate until the urine when tested with the phloroglucin reagent gives a reaction for formaldehyd.

This test indicates quite closely the turning point in the reaction of urine. That is, at approximately the point of neutrality or beginning alkalinity it will no longer give a positive formaldehyd test with a hexamethylenamin urine, but as soon as such a urine begins to be truly acid, it gives a positive test for formaldehyd. A urine which has been previously alkaline, that is, possessing a hydrogen ion concentration of 7.2, can be rendered acid, that is, increased to a hydrogen concentration of 4.85 within approximately five hours after the administration of 13 grams (200 grains) of the phosphate. If the occurrence of diarrhea is objectionable, the dosage of the phosphate may be reduced. On the other hand, the administration of alkalies, such as sodium bicarbonate ($NaHCO_3$) or potassium citrate, entirely prevents the benefits of hexamethylenamin; and it is, therefore, irrational to prescribe them together.

Georgia Medical Association Journal, Augusta

December, III, No. 8, pp. 251-286

67 Cerebral Syphilis. R. C. Swint, Milledgeville.
68 Acute Osteomyelitis: Importance of Early Diagnosis and Treatment. F. K. Boland, Atlanta.
69 Cesarean Section. E. C. Davis, Atlanta.
70 Surgery Among Insane Patients (Female)—Report of Cases. Y. A. Little, Milledgeville.
71 "Cancer Uteri, Hysterectomy, Return, Cure—Two Cases." E. C. Cartledge, Atlanta.
72 Imperfect Development a Factor in Genesis of Diseases of Women. B. S. Moore, Atlanta.
73 Lumbar Puncture. S. R. Roberts, Atlanta.
74 Indications for Cesarean Section. R. M. Harbin, Rome.

Iowa State Medical Society Journal, Clinton

December, III, No. 6, pp. 337-409

75 Ocular Traumatisms. G. F. Harkness, Davenport.
76 Immunology: Its Progress and Limitation of Its Practical Application. J. C. Ohlmacher, Clarinda.
77 Serum and Vaccine Therapy. E. A. Merritt, Council Bluffs.
78 Treatment of Lateral Curvature of Spine. A. Steindler, Des Moines.
79 Albuminuria. M. H. Thielen, Grundy Center.
80 Limits in Operability of Malignancy. F. Rosenbladt, Des Moines.
81 Present Status of Mental Hygiene and Mental Control. M. N. Voldeng, Cherokee.

Journal of Medical Research, Boston

December, XXIX, No. 2, pp. 147-366

82 *Specific Paratuberculous Enteritis of Cattle in America. K. F. Meyer, Philadelphia.
83 *Relation of Hodgkin's Disease to Lymphosarcoma and Endothelioma. J. Oliver, San Francisco.
84 *Primary Hodgkin's Disease of Spleen (Dorothy Reed Type). H. W. Wade, New Orleans.
85 *Diet Studies in Transplantable Tumors. E. V. Van Alstyne and S. P. Beebe, New York
86 *Studies in Anaphylaxis: V. Desensitization: Its Theoretical and Practical Significance. R. Weil, New York.
87 Adenomas of Islands of Langerhans. R. M. LeComte, U. S. Army.
88 *Histologic Evidence of Disease Importance of Pulmonary Anthracosis. S. R. Haythorn, Pittsburgh.
89 Hydropic Condition of Rabbits' Livers. C. J. Bartlett and M. R. Smirnow, New Haven, Conn.

90 Bacillus Aerogenes Capsulatus in Epidemic of Dysentery and in Normal. S. T. Orton, Boston.
91 Bacteriologic and Environmental Factors in Pneumonias of Lower Animals with Special Reference to Guinea-Pigs. T. Smith, Boston.
92 Etiology of Epizootic Abortion in Mares. K. F. Meyer and F. Boerner, Philadelphia.

82. **Specific Paratuberculous Enteritis of Cattle.**—The paratuberculosis enteritis found in America, Meyer says, is identical with the disease of European countries. By intravenous inoculations with material from the mesenteric lymph-nodes the disease has been reproduced in young calves (30, 92 and 96 days of age). The incubation time was from four to eight months. One animal died from the disease twelve months after the infection. Feeding experiments were not successful. The natural infection probably takes place in the early days of life by contact with infected mothers or surroundings. The possibility of an infection in certain pastures, where *B. paratuberculosis* leads a saprophytic life, Meyer believes, cannot be denied, and is probably of importance for the infection of adults. *B. paratuberculosis* can be cultivated on solid and liquid culture media containing glycerin extracts of acid-fast bacilli, particularly tubercle bacilli or *B. phlei.* Six strains have so far been isolated. The growth is slow and only possible at body temperature. A culture medium consisting of equal parts of tuberculin and bouillon, with a 2 per cent. agar and 1 per cent. serum, is the best for primary isolations. Meyer maintains that the use of antiformin should be limited to contaminated material. The bacterioscopic examination of feces and rectal scrapings is only of diagnostic value in about 40 per cent. of the cases in the advanced stages of the disease. Avian tuberculin is an unreliable reagent for paratuberculosis. "Paratuberculin" and perhaps some of the serum tests may prove in the future to be more reliable. *B. paratuberculosis* is, in certain respects, related to different representatives of the acid-fast group of bacteria.

83. **Relation of Hodgkin's Disease.**—It is held by Oliver that Hodgkin's disease must be classed with the lymphosarcomas and endotheliomas of the lymph-nodes as a neoplastic process. The following facts compel this conclusion: (a) the similarity, and in cases identity, of the histologic process; (b) the early and constant development of malignancy (invasion of capsule and veins); (c) the ultimate formation of true metastases, partly at least by the blood-stream. The endotheliomas of the lymph-nodes are of relative frequent occurrence and are classed by Oliver as endothelioma medullare, endothelioma scirrhosum and endothelioma cylindricum (Winigradow), or better by the classification of Ewing as diffuse, alveolar and perivascular.

84. **Primary Hodgkin's Disease of Spleen.**—In Wade's case there was at no time any enlargement of the superficial lymph-nodes, nor was there evidence of any lymphatic hyperplasia within the mediastinum or abdominal cavity. The disease was of long standing in the spleen as was evidenced by the gross and histopathologic appearance. Therefore, Wade believes, it should be considered one of primary Hodgkin's disease of the spleen, a condition quite unique, but one, he says, that occurs more frequently than has been held. Some of the reported cases of primary splenic sarcoma may easily have been unrecognized Hodgkin's disease.

85. **Diet Studies in Transplantable Tumors.**—It has long been a popular belief that the character of the diet of a group or race of people bears an important relationship to the incidence of malignant growths. The experiments reported by Van Alstyne and Beebe may be divided into two classes: 1. Those experiments in which one group of animals was kept on a special diet for from three weeks to two months before being planted with the tumor. A group of thirty-four white rats of uniform age and weight was divided, without exercising special selection, into two groups of seventeen rats each. One group was placed immediately on the special non-carbohydrate diet which consisted of casein and lard. The second group was continued on the ordinary laboratory diet, consisting of bread. This feeding was continued for a period of six weeks, at which time the animals were all planted from the same seed.

In this experiment the tumor was a Buffalo sarcoma. A large mass of the tumor was removed, finely pulverized and suspended in salt solution. Of the emulsion thus prepared each rat received one cubic centimeter by subcutaneous injection. The animals of both sets were in good physical condition at the time of planting the tumor. I. Non-carbohydrate diet: 17 rats planted: 7 takes: 4 retrogressed; 2 killed by the tumor; 1 died from unknown causes. II. Experiments in which the special feeding of the animals was begun on the same day that they were planted. In this group there was a total of 27 rats, divided into two lots, 13 being placed on the regular diet and 14 on the non-carbohydrate diet. The same diet was used as in the previous experiment, and the animals were fed for six weeks before being planted. The methods of planting these rats was the same as that followed in experiment I, a freshly removed tumor serving as the seed for all of the animals: 14 rats planted: 1 take: 1 rat took the tumor, which grew to large size and killed the animal. Regular diet: 13 rats planted: 7 takes: 3 died from unknown causes; 4 killed by the tumor. The results in this experiment are so striking that the authors claim one can scarcely avoid the conclusion that the preparation of one group of animals by feeding on a non-carbohydrate diet has enabled the animals to resist the tumor.

86. **Studies in Anaphylaxis.**—The conclusion drawn by Weil in a previous paper is verified, namely, that the mode of sensitization determines certain important factors in active anaphylaxis. Guinea-pigs sensitized by the injection of fractional amounts of alien serum present a prolonged incubation period, require a relatively small dose of antigen to produce death and contain in their serum relatively few specific antibodies. On the contrary, guinea-pigs sensitized by repeated large injections of alien serum present an abbreviated incubation period require a much larger dose of antigen to produce death, and have many more antibodies in their serum. To these data is added the fact that after active sensitization by fractional amounts of alien serum, the minimal desensitizing dose is relatively very small. After sensitization by repeated doses, the minimal desensitizing dose is many times as large as in the previous case, and may even very largely exceed the minimal lethal dose there determined. After the passive sensitization of guinea-pigs by small and by large amounts of immune rabbit serum, respectively, it is found that the minimal desensitizing doses are small and large respectively. Hence the deduction is drawn that in active anaphylaxis also the amount of the minimal desensitizing dose is determined by the relative number of specific antibodies possessed by the animals. Repeated desensitizing injections ("doses subintrantes") are subject to the same conditions as control the effectiveness of the single dose. Moreover, it is shown that recovery from severe anaphylactic symptoms, or from the administration of a dose fatal for control animals, does not necessarily avert a fatal result on the administration of a larger dose on the succeeding day.

Cases are cited to show that human beings are sensitized, in the same way as are guinea-pigs, by the repeated injection of large amounts of therapeutic serum, given intraspinally, and may be killed by a subsequent injection. The desensitization of these individuals offers a complex problem, which is discussed in detail. Protection against the toxic effects of primary injections presents a problem of the same character, but probably much less difficult of solution.

88. **Disease Importance of Pulmonary Anthracosis.**—Summarizing the various points indicating the disease importance of anthracosis which Haythorn has gathered from histologic evidence, he draws the following conclusions: Moderate anthracosis in an otherwise normal lung is not in itself detrimental to health. In tuberculosis and granulomatous conditions in which the reactions are chiefly centered in focal lesions of the tissues, the anthracotic condition is either entirely passive or is active in assisting healing, in that it is an additional stimulus to fibrosis and encapsulation and in that it aids in the localization of the process through the obliteration of the lymph spaces. In acute inflammatory conditions in which the lymphatics are important for proper

resolution, anthracosis becomes seriously detrimental, because of the obliteration of these spaces.

Laryngoscope, St. Louis

November, XXIII, No. 11, pp. 1041-1120

93 Eight Cases of Purulent Meningitis Operated on by Haines' Method, Post-Mortem Findings. E. W. Day, Pittsburgh.
94 Congenital Absence of Both Ears. R. C. Lynch, New Orleans.
95 Edelmann's Acoustics for Otologists. J. Holinger, Chicago.
96 Cavernous Sinus Thrombosis: Report of Case. R. McKinney, Memphis, Tenn.
97 Unusual Case of Meniere's Disease Associated with Nephritis. A. L. Guthrie, Lancaster, O.
98 Untoward Results following External Operation on Frontal Sinus. R. H. Skillern, Philadelphia.
99 Empyema of Frontal Sinus with Exposed Dura Cured by Obliteration of Sinus. T. C. Worthington, Baltimore.
100 Nerve Trunk Anesthesia and Carbolization in Nasal Surgery. G. Sluder, St. Louis.
101 Intratracheal Anesthesia from Standpoint of Nose, Throat and Oral Surgeon with Description of New Instrument for Catheterizing Trachea. H. H. Janeway, New York.
102 Kuhn Method of Peroral Narcosis. F. Hazlehurst, Baltimore.

Maine Medical Association Journal, Portland

December, IV, No. 5, pp. 1617-1660

103 Artificial Pneumothorax. F. J. Welch, Portland.
104 Football and Physical Efficiency. E. W. Gehring, Portland.

New York State Journal of Medicine, New York

December, XIII, No. 12, pp. 627-694

105 *Treatment of Large Ventral Hernia by Inversion of Hernial Sac; with or without Opening into Peritoneal Cavity. I. S. Haynes, New York.
106 *Rôle of Ovarian Disease in Production of Sterility. G. W. Kosmak, New York.
107 Acute Thyroiditis as Complication of Acute Tonsillitis. C. F. Theisen, Albany.
108 Results of Salvarsan Therapy in Malignant Syphilis Praecox, Syphilid of Palms and Gumma of Tongue. H. F. L. Ziegel, New York.
109 Enuresis and Chronic Digestive Disturbances. F. Van Der Bogert, Schenectady.
110 Experiences with Direct Laryngoscopy, Bronchoscopy and Esophagoscopy. J. McCoy, New York.
111 Plea for More Frequent Use of Lumbar Puncture. E. J. Wynkoop, Syracuse.
112 Case of Dacryocystitis Presenting Several Complications, Including Orbital Abscess and Optic Neuritis. A. C. Snell, Rochester.
113 Technic of Labyrinth Operation. E. B. Dench, New York.
114 Economic and Social Aspect of Deafness. H. Hays, New York.
115 Importance of Testing Accommodation as Routine Measure in Refraction Work. A. Duane, New York.
116 Acute Phlegmonous Cholecystitis: Report of Case with Gangrenous Enteritis. A. E. Roussel, Philadelphia.
117 Infant Feeding. H. Rulison, Albany.

105. **Treatment of Ventral Hernia.**—The details of Haynes' inversion method are as follows: Dissect the skin from the sac and the skin and fat from the fascia for a distance of from one to two inches beyond the margin of the hernial orifice. Whether the skin shall be entirely removed from the sac depends on whether the sac is to be inverted entire or not. The preceeding case is the only one in which it was necessary, or seemed necessary, to accomplish the technic without opening the sac. In all the other cases the sac was opened to deal with some attending complication. In these instances more or less skin was removed by the usual eliptical incisions with the redundant portions of the sac itself. After the complications have been dealt with and the sac (peritoneum and thin fascia) has been sutured with No. 2 plain gut, doubled, the inversion of the hernia and coaptation of the margin is carried out. For this purpose two rows of sutures of heavy kangaroo tendon are necessary. Both rows are placed mattress-wise with deep and wide bites in the external fascia, the two rows "break joints" with each other. Retention sutures of either bronze wire, silk-worm or chromic gut are used to take the strain off the mattress sutures. The wire is preferred in the larger hernia and the gut may be used in the smaller ones. These sutures are placed in the figure-of-eight manner and brought out through the skin at a distance of from two to four inches from the skin incision where they are tied firmly over the rolls of gauze or a large rubber tubing (quill suture). A drain of rubber tissues should be inserted before the skin is closed with silk-worm or plain gut.

106. **Ovarian Disease and Production of Sterility.**—Forty-five cases have been collected by Kosmak from various operators as regards the relief of sterility and also on the effect of the removal of one ovary on the sex of the child. There were seven cases of extra-uterine pregnancy in the series in which the ovary was removed in connection with the ruptured tube, otherwise the ordinary cystic degeneration served as the reason for the oophorectomy except in a few instances where salpingo-oophorectomy with adhesion was given as the cause. In nine cases a uterine suspensory operation was done and likewise an appendectomy. In twenty cases children were born previous to the removal of the ovary. As regards the sex of children born subsequently, the sex changed in four cases and remained unchanged in seven where children of one sex had been born previously. In three cases with more than two previous children of different sexes, the sex after oophorectomy followed the preponderating sex previously. In one case in which 5 female children had been born there were 2 males and 1 female in the succeeding births, and in another in which 4 females were born a male subsequently resulted.

An attempt to relate the sex to the removal of one or the other ovary was therefore unsuccessful, as in the series of 45 cases there were 16 male and 13 female infants following the removal of the right ovary, and 16 male and 15 female infants following the removal of the left ovary—a fairly equal division of the sexes.

In the 19 cases of the series in which pregnancy had not preceded the operation, the oophorectomy was done in 3 women while still single and in 7 in a year or less after marriage. In the remainder the operation was done in from four to ten years after marriage. In 3 cases pregnancy took place in less than a year, in 10 cases in less than two years and in 3 cases between five and six years, although several abortions occurred in one of the latter series. As regards the sex of these children, in cases in which the left ovary was removed there were 8 males and 9 females subsequently born, and in those instances in which the right ovary was removed there were 5 males and 8 females.

Kosmak emphasizes that the question of sterility in an otherwise healthy woman must depend on an aggregation of factors rather than on a single lesion and that in every instance the entire pelvic contents must be subjected to careful study. In a certain proportion of cases, however, the removal of an ovary which is diseased undoubtedly contributes to increased function in the other, as evidenced by an improvement in the menstrual conditions and the greater possibility of subsequent pregnancies. It would appear as if the question of sex was not dependent on the side from which the individual ovum is derived and that whether the left or right ovary is removed the proportion of sexes in subsequent children is about equal.

New York Medical Journal

December 27, XCVIII, No. 26, pp. 1241-1280

118 Cancer Research Hospital. J. Ewing, New York.
119 Ileocolitis with Meningeal Symptoms. A. L. Goodman, New York.
120 Serodiagnosis (Abderhalden) of Cancer and Pregnancy. C. F. Ball, Rutland, Vt.
121 Chronic Suppuration of Middle Ear. J. Auerbach, New York.
122 Resorts We Visited. H. P. Collings, Hot Springs, Ark.
123 *Acromial Breathing as Aid in Diagnosis of Apical Pulmonary Tuberculosis. N. Magida, New York.
124 Etiology of Pellagra. P. Bartholow, New York.
125 *Treatment of Bronchopneumonia in Children. A. Goltman, New York.

123. **Acromial Breathing in Tuberculous.**—In looking over the histories of 52 cases, consisting of 28 in the first stage, 14 in the second and 10 in the third, Magida found acromial breathing present in all the first stage cases, in 8 of the second and 2 of the third. It would seem that it is a valuable method in first stage cases, and since that stage is the most important from a diagnostic point of view, and as the method is so easily acquired, the author believes it should be universally employed. It should also help toward ascertaining the advanced stages of tuberculosis, as the further advanced a case is the less probability there is of getting evidence from auscultation of the acromion process.

This method was first described by Robert Abrahams, who observed that in apical tuberculosis auscultation at the acromion process increases and amplifies all the auscultatory signs which are ordinarily obtained over the apices. The hard rubber bell is placed over the acromion process of the scapula, where it joins the acromion end of the clavicle. In thin people this anatomic part is not well covered with muscle and it is sometimes hard to place the bell of the stethoscope in such a manner as to exclude all external sounds. This, however, is overcome by pinching the skin up so that the bone fills the bell of the stethoscope; the surrounding folds of the skin act as a barrier to foreign sounds. Joint creakings which are sometimes heard are easy to distinguish from râles. The value of this method is best appreciated if the apices are examined first, the acromion later, and then the difference in the sounds compared.

125. **Bronchopneumonia in Children.**—Goltman outlines his course as follows: Support the patient's strength with nourishing liquid diet and let the temperature and pulse be guides as to whether stimulants should be used. The ice pack will reduce a temperature in quick time. When mucous rattling is heard, when the respirations are increased and dyspnea and cyanosis are present, aim at one thing—keep the respiratory center alive. Plunging the child into a warm bath and then wrapping it up in a cold sheet, pouring hot and cold water alternately from a height on the patient's chest will cause the child to cough and expel the mucus. Goltman has found that these measures are followed by good results.

Ohio State Medical Journal, Columbus

December, IX, No. 12, pp. 575-646

126 Treatment of Hemorrhagic and Septic Conditions with Normal Blood-Serum. L. A. Levison, Toledo.
127 Management of *Placenta Praevia* with Report of Case. H. T. Sutton, Zanesville.
128 Warts and Moles: Their Etiology and Treatment. W. I. Lefevre, Cleveland.
129 Some Colonic Sigmoidal and Rectal Conditions. E. A. Hamilton, Columbus.
130 Herpes Zoster Ophthalmicus Complicated by Ophthalmoplegia. R. B. Metz, Cleveland.

Tennessee State Medical Association Journal, Nashville

December, VI, No. 8, pp. 301-340

131 *Inguinal Adenitis; Treatment. E. T. Newell, Chattanooga.
132 Orthodontia. N. C. Leonard, Nashville.
133 Suppurative Appendicitis. J. H. Carter, Memphis.
134 Appendicitis without Symptoms. M. Goltman, Memphis.
135 Hebra Panacea. W. B. St. John, Bristol.
136 Neurasthenia. R. O. Huffaker, Chucky City.
137 Amebiosis. T. A. Mitchell, Nashville.

131. **Inguinal Adenitis.**—To say that all cases of inguinal adenitis should be treated by incision and drainage, or that all cases should be treated by complete enucleation, Newell states, would be incorrect. Each case must be treated according to the condition found, to-wit: a simple, single bubo should be incised, curetted or wiped out; with the application of iodin or carbolic acid and gauze packing. Large masses of glands that belong to the superficial group, that are more or less circumscribed, that contain pus, but are not completely broken down, come out readily and easily in one ball-like mass when enucleated. And in Newell's opinion, this is the treatment of election in such conditions. If the deep glands are involved they should be removed cautiously along with the superficial one. The wound is closed and drainage is supplied at the lower angle. Large masses of glands with peri-adenitis and edema of subjacent parts, especially if they contain multiple abscesses, do better with free incision, curettage, partial enucleation and drainage. Tight bandaging, aspiration and the local application of heat, etc., have their place in the early treatment (abortive).

West Virginia Medical Journal, Wheeling

December, VIII, No. 6, pp. 179-220

138 Relation of Nasal Accessory Sinuses to One Another. J. W. Murphy, Cincinnati, O.
139 Little Talk on Dentistry with Suggestions to Physician. J. W. Parsons, Huntington.
140 The Pulse. C. O'Gracy, Charleston.
141 Dermatology in London. W. S. Robertson, Charleston.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

December 13, II, No. 2763, pp. 1521-1568

1 *Clinical Significance of Spontaneous Hemorrhage as Early Sign of Disease. G. R. Murray.
2 *Early Diagnosis and Operative Treatment of Carcinoma of Cervix. H. W. Wilson.
3 Influences of Venereal Diseases. C. J. Macalister.
4 Work of Cambridge Research Hospital. T. S. P. Strangeways.
5. Significance of Phleboliths. J. Hall-Edwards.
6 Appendicectomy in General Practice. H. S. Elworthy.
7 Intestinal Obstruction due to Coil of Worms. D. H. Vickery.

1. **Spontaneous Hemorrhage Sign of Disease.**—Bleeding from the nose is such a common event says Murray that even a sharp attack of epistaxis does not give rise to alarm unless it be unduly prolonged. In some persons it is readily started by a very slight injury and in others it occurs from time to time without any apparent reason, and careful examination may reveal no nasal disease to account for it. When epistaxis occurs with fever it may be an early symptom of enteric fever, especially if it is associated with frontal headache. The occurrence of epistaxis in granular kidney and arteriosclerosis is well known. A sudden attack of epistaxis occurring in a man who has passed middle age may be the first indication that he is suffering from granular kidney. This symptom naturally leads one to examine the urine, take the blood-pressure and make an ophthalmoscopic examination. Hemoptysis is by far commonest in pulmonary tuberculosis; it may be the earliest symptom to attract attention. Any hemorrhage from the lungs would naturally lead Murray to suspect pulmonary tuberculosis and take every pains to ascertain if it is present. An aneurysm or new growth in the lung or a pulmonary infarction may all cause a spitting of blood. Bronchial hemorrhage may be brisk and yet never recur. Hemorrhage from the gums may sometimes be mistaken for hemoptysis.

When blood is passed with the urine it may come from any part of the urinary tract, from the kidney down to the urethra. When blood comes from the kidney it is uniformly distributed through the urine. If small in amount it may make the urine "smoky," and there may be the "beef-tea" deposit; if abundant it may impart a bright red color to the urine. Blood which comes from the bladder or prostate appears chiefly at the end of micturition, as may be demonstrated by getting the patient to micturate into three different glasses in succession. Hematuria may occur in tuberculosis of the kidney and in the early stages of a new growth of the kidney, and may be produced also by the presence of a renal calculus. It may occur also in acute Bright's disease and in chronic granular kidney; in the former case the cause is generally obvious. A profuse attack of hematuria should always lead to a careful examination of the urine, the blood-pressure and the heart, to ascertain whether there is any evidence of a chronic granular kidney. In essential renal hematuria recurring attacks of hematuria take place, though it is rarely fatal. In cases in which an operation has been performed, the kidney has been found to be quite healthy, and in some the attacks have ceased after a simple nephrotomy.

In some cases presenting similar clinical features the hemorrhage has proved to be due to an angioma of a renal papilla, but these, Murray says, are not cases of "essential renal hematuria" and require a nephrectomy to remove the source of the hemorrhage. There is, however, another variety of attacks, of hematuria in which a single attack, or two or three attacks of hematuria occur close together, without subsequent recurrence. These may be termed examples of a good deal of anxiety at the time, as the loss of blood may be considerable. The absence of subsequent recurrences during a long period of years of good health shows clearly that in these cases there is no structural change in the kidney. Gastro-intestinal hemorrhages are in some cases very difficult to explain. Apart from bleeding due to actual ulceration, there is the hematemesis, which occurs in the early stages of splenic anemia or from the rupture of an esophageal varix in cases of alcoholic cirrhosis of the liver.

Secondary anemia and prolonged ill-health arise in some cases from small repeated hemorrhages, of almost daily occurrence, from hemorrhoids; the hemorrhage has been neglected by the patient and allowed to go on unchecked for years before medical advice is sought. In these cases the hemorrhage is not of importance as an indication of disease nor on account of the amount lost on any single occasion. It is the repeated small losses which impose so great a strain on the blood-forming organs that a profound secondary anemia results.

2. **Carcinoma of Uterus Cervix.**—The rules which Wilson has adopted for his guidance in these cases are as follows: (1) The iliac glands are not removed if, after the abdomen has been opened, they are not found to be enlarged, and the parametrium is clinically healthy. (2) If the patient's general condition is good and the parametrium is clinically infected, whether the iliac glands are enlarged or not, the larger operation is performed. (3) If a large mass of iliac glands is found, the operation is not proceeded with. By this time infection has spread far up the ovarian lymphatics to the lumbar glands, and no operation will cure the patient of her disease. Wilson emphasizes that something can be done, in an advanced case of the fungating type of growth where a large mass fills the vagina, and the patient is suffering from pain, a profuse, purulent vaginal discharge, and hemorrhage.

Of the various methods of treatment employed, Wilson believes none are better than a thorough use of the cautery, and the removal of all the exuberant portions of the growth by this means. The diathermic cautery is the best instrument to employ in Wilson's opinion, as the extent of its action is much more under the control of the surgeon than is the case with the actual cautery. The necrosis also, which the former instrument produces, is much less likely to be followed by an intense inflammatory reaction at the periphery of the growth, or by bursts of secondary hemorrhage later as the sloughs separate. Ligature of arteries is also useful in those cases in which hemorrhage and discharge are the prominent feature if the abdomen has been opened for the exploration of a growth which subsequently proves to be inoperable, it is quite a simple matter to ligature both main internal iliac arteries and one or both groups of ovarian vessels. This will cause a marked improvement in the symptoms for a time, but the results are not sufficiently permanent to justify a laparotomy for this procedure alone.

Dublin Journal of Medical Science

November, III, No. 503, pp. 313-391

8 Examinations, Examiners and Examinees. W. Osler.
9 Tests for Liver Function. G. E. Nesbitt.
10 Cancer of Rectum. W. Taylor.

Edinburgh Medical Journal

December, XI, No. 6, pp. 481-576

11 Three Cases of Dyspituitarism. A. W. Falconer.
12 Scarlet Fever in Aged. C. B. Ker.
13 Rumpel-Leede Phenomenon in Diagnosis of Scarlet Fever. G. Richardson.
14 Case of Auricular Flutter. G. D. Mathewson.
15 Cardiac Mechano-Therapeutics. E. F. Cyriax.

Indian Medical Gazette, Calcutta

November, XLVIII, No. 11, pp. 417-456

16 Ankylostomes and Ankylostomiasis in Bengal. C. Lane.
17 Dysentery in Raipur Central Jail, C. P. R. T. Rodgers.
18 Treatment of Snake Poisoning. F. Wall.
19 Case of Cobra Poisoning: Recovery. P. C. White.
20 Epidemic Cerebrospinal Meningitis. Sudhonarain.

Journal of Tropical Medicine and Hygiene, London

November 15, XVI, No. 22, pp. 345-360

21 Hepatic Abscesses Which Open Upward Through Lung. J. Cantlie.
22 Case of Equine Trypanosomiasis Characterized by Occurrence of Posterior Nuclear Forms. J. W. S. Macfie and J. E. L. Johnston.
23 Case of Dermal Leishmaniasis in British Guinea. E. P. Minett and F. E. Field.

Lancet, London

December 13, II, No. 4711, pp. 1677-1742

24 Some Common Errors in Diagnosis of Nervous Disease. S. A. K. Wilson.
25 *Cancer of Prostate. P. J. Freyer.
26 Jackson's Pericolic Membrane: Its Nature, Clinical Significance and Relation to Abnormal Mobility of Proximal Colon. J. Morley.
27 Method of Removal of Carcinoma of Prostate. R. Howard.
28 *Myocardial Lesions of Rabbits Inoculated with Streptococcus Viridans. E. C. Rosenow and C. Coombs.
29 Tuberculosis Statistics. H. Clark.
30 Three Cases of Glanders. H. M. M. Woodward and K. B. Clarke.

25. **Cancer of Prostate.**—Freyer is of the opinion that a prostate attacked by malignant disease previous to its undergoing adenomatous enlargement is rarely, if ever, capable of enucleation suprapubically by his method of dealing with hypertrophy of the prostate, or of being effectually removed by any other method, for the simple fact that by the time the symptoms declare themselves the disease has already passed through the capsule of the gland and invaded the adjacent structures. When, however, cancer supervenes on, or is due to degeneracy in, a previously enlarged adenomatous prostate, as very frequently happens, and the patient comes under observation while the prostate is still movable and the adjacent structures uninvolved—that is to say, while the malignant disease is still confined within the capsule of the gland—the prostate can, and should be, enucleated, Freyer's experience of operation under such conditions being most favorable. It is sometimes impossible to give a definite diagnosis of malignancy in such cases before the removal of the prostate, though the presence of hard nodules in the gland, combined with the rapid progress of the symptoms, will arouse strong suspicions which, Freyer says, should be communicated to the patient's relatives before operation is undertaken.

28. **Inoculation with Streptococcus Viridans.**—Small blocks from the right and left ventricles and auricles from nineteen hearts of rabbits in whom inoculation with the endocarditic strains of *Streptococcus viridans* had caused endocarditis were cut and studied by Rosenow and Coombs. Fourteen of these showed some microscopic evidence of invasion of the myocardium of the following character: In those hearts in which the animal succumbed soon after the injection of a large dose of the organism, masses of Gram-positive cocci were actually demonstrated within the smaller blood-vessels of the myocardium, and in some of these there was little or no inflammatory reaction. In other sections it was possible to discern that the cocci were undergoing destruction and phagocytosis by the endothelial cells of the small blood-vessels in which they became fixed; cocci, single, paired, and in short chains, were occasionally to be seen within the endothelial cells. In one or two instances the cocci were included within the endothelial cells. In one or two instances the cocci were included within a thrombus, which obliterated the lumen of the vessel. In none of the sections was there any evidence of profuse invasion of the myocardium by cocci.

In the majority of hearts, however, cocci were not seen in the myocardium, and the only evidence of invasion of that tissue lay in the presence of reactive changes varying in degree, but not transgressing above a certain maximum. These reactive phenomena expressed themselves primarily, in many cases exclusively, in changes in the vascular endothelium. The mildest evidence of intravascular irritation consists of a swelling of the endothelial cells, which appear to change from a flat to a cuboidal state. The next stage in their reaction is proliferative; changes of this type are particularly rife in the smallest arterioles and in the capillaries, also perhaps in perivascular lymph-vessels. A step beyond the proliferative process lies disintegration of the vascular endothelium, associated with thrombosis, and sometimes with break-up of the vessel wall—the result being the creation of an area having a small hyaline clot as its center, around which endothelial cells are irregularly arranged, constituting a zone separating the abnormal focus from the surrounding tissues. Apart from these various phases of endothelial activity—swelling, proliferation and degeneration—there was little sign of inflammatory reaction.

These phenomena are closely similar in several of their essential features to those witnessed in the following streptococcal infections: human rheumatic infection, experimental rheumatic infection, and experimental infection with *hemolytic* streptococci. The following fundamentals are common to all these infective processes: the myocardium is frequently invaded, the path of invasion lies through the myocardial blood-vessels, the endothelium of the blood-vessels plays a primary and predominant part in the defensive reaction, and the cocci are not found to have escaped in numbers beyond the vascular endothelial cells.

Practitioner, London

December, XCI, No. 6, pp. 745-896

31 Varieties of Facial Spasm and Their Treatment. E. F. Buzzard.
32 Genital Prolapse. C. Lockyer.
33 Nephrectomy. C. A. Ball.
34 Principles of Serum and Vaccine Therapy and Their Application to Diseases of Children. D. N. Nabarro.
35 Fact and Fancy in Cancer Research. C. E. Walker.
36 Venereal Diseases as We See Them To-Day. J. E. R. McDonagh.
37 Recent Advances in Dermatology. J. M. H. Macleod.
38 Imperforate Conditions of Rectum and Anal Canal and Their Treatment. L. E. C. Norbury.
39 Local Treatment of Vincent's Angina with Salvarsan. J. D. Rolleston.
40 Diagnostic Value of Bismuth Bolus. F. Emrys-Jones.
41 So-Called Movable Kidney Disease. P. Hicks.
42 Enteritis in Turkish Cholera Camp. H. E. S. Stiven.
43 Chronic Mucocele. A. N. Robertson.

Annales de Gynécologie et d'Obstétrique, Paris

November, XL, No. 11, pp. 625-688

44 *Uncontrollable Vomiting of Pregnancy; Two Cases. G. Lepage and Tiffeveau.
45 Dermoid Cysts of Vesico-Uterine Pouch. Vautrin.
46 Rupture of Ovarian Cysts; Eight Cases. Tédenat.
47 Abderhalden's Pregnancy Reaction. (Le diagnostic physiologique de la grossesse.) R. Labusquière.

44. **Uncontrollable Vomiting of Pregnancy.**—In the first of the two cases described two injections of serum from a normal pregnant woman aided materially in the cure, the diuresis increasing at once afterward and the pregnancy proceeding undisturbed to term. In the second case both epinephrin and serotherapy failed to relieve, and labor had to be induced. The metabolic findings in these cases apparently indicate that the disturbances in the metabolism of nitrogen are the consequence of the starvation resulting from the uncontrollable vomiting. The greater these disturbances the graver the condition. The influence of treatment by alkalines is well founded although the alkali only modifies symptoms without removing the cause. When an alkali can be easily administered it is a useful adjuvant, but it is especially useful during the period of convalescence and return to normal conditions. The starvation seems to bring on an acid intoxication.

Archives Générales de Chirurgie, Paris

November 25, VII, No. 11, pp. 1281-1408

48 *Permanent Drainage of Ascitic Fluid into Subcutaneous Cellular Tissue. Perinoff.
49 Coagulation of Extravasated Blood in Joints after Trauma. L. Delrez.
50 *Operative Treatment of Gastric Crises of Tabes. P. Mauclaire.

48. **Permanent Autodrainage of Ascites.**—Perinoff discusses the various methods that have been applied to drain away automatically the ascitic fluid either by direct anastomosis with the portal vein, by diverting the fluid into the subcutaneous cellular tissue or by Ruotte's technic which sutures the saphena vein to the peritoneum. This latter technic has been applied to date in thirteen cases, mostly in Russia, with six successes. In cirrhosis of the liver with atrophy, the ascitic fluid induces phenomena suggesting anaphylaxis. Mauclaire's six patients all grew very weak and died almost at once after the ascites had been drained into the cellular tissue, with the exception of one in whom the ascites was of tuberculous origin. On the other hand, the outcome in cases of cirrhosis of syphilitic or alcoholic origin has been favorable. Perinoff has applied *autodrainage in three* cases with good results, the ascites accompanying cirrhosis of the liver of the type with simple venous hypertrophy, with no history of alcoholism. He used a silver tube, shaped like the tip of a catheter at one end, the other end slit and the two halves bent at right angles and placed to rest on the fascia after the tube had been introduced into the peritoneum.

This operation and drainage were subsidiary to omentopexy, which he regards as the important part of the operation. As it takes time, however, for collateral circulation to develop *after omentopexy*—the Talma operation—the tube drainage is provided as a temporary expedient. When the omentopexy has produced the desired conditions, then the tube drain can be taken out. The circumference of the abdomen in the two cases reported in detail subsided from 106 cm. to 96 and 86; the patients were young men of 23 and 17.

50. **Operative Treatment of Gastric Crises of Tabes.**—Mauclaire reviews the twelve different operative methods that have been applied in treatment of gastric crises, and reports his own experience in one case with Franke's technic, the tearing out of the intercostal nerves. He summarizes seventeen other cases from the literature, stating that the gastric crises were cured by the operation in seven cases; they recurred in eight cases sooner or later. In his own case the cure has been complete during the fifteen months to date. The patient was a woman of 64 who had had tabetic gastric crises during fifteen years. The fifth, sixth, seventh, eighth and ninth intercostal nerves were taken up in turn on a grooved sound and wound slowly on the sound until they tore; the peripheral stump was then cut. The fulgurating pains in arms and legs which the patient had had before the operation were not modified, but the gastric crises were abolished and she is now able to eat and digest approximately normally.

Archives des Maladies du Cœur, etc., Paris

November, VI, No. 11, pp. 689-752

51 *Action of Digitalis on Alternating Rhythm. D. Danielopolu.
52 Frequency, Origin and Significance of the Phenomena of Extra Systoles in the Course of Heart Disease. V. Nefedoff.

51. **Action of Digitalis on Pulsus Alternans.**—Danielopolu concludes from his study of four cases that digitalis has both a retarding action on the myocardium and a retarding action on the length of the refractory period. According as one or the other of these elements predominates, the effect on the pulsus alternans is quite the reverse of that with the other. The retarding action seems to predominate generally, and consequently digitalis should at least be given a trial in these cases. The alternating rhythm and the phenomena indicating asystoly disappeared in his four cases while the heart was under the influence of the drug, but then returned in all but one case, in which the benefit was permanent.

Bulletin de l'Académie de Médecine, Paris

November 25, LXXVII, No. 37, pp. 445-480

53 Colloidal Sulphur in Therapeutics. (La nutrition sulfurée dans la thérapeutique.) A. Robin.
54 Nature of Exophthalmic Goiter. (Maladie de Basedow.) A. Souques.
55 Signs and Symptoms of Pressure on the Brain. (Les variétés cliniques du syndrome d'hypertension intracranienne.) H. Claude.

Journal de Médecine de Bordeaux

November 30, LXXXIV, No. 48, pp. 767-788

56 Nerve-Splicing. (De la réunion bout à bout de nerfs différents et des anastomoses nerveuses.) A. Pitres.
57 Congenital Multiple Ankylosis of Joints. (Les raideurs articulaires congénitales multiples.) H. L. Rocher.
58 Reeducating Atrophied Limb to Walk. (Paralysie persistante de la jambe et du pied traitée par un procédé ingénieux de paysan.) Chambon.

December 7, No. 49, pp. 791-804

59 Spontaneous Fracture of the Lower End of the Femur in the Course of Bloodless Treatment of Congenital Dislocation of the Hip-Joint; Seven Cases. Codet-Boisse.
60 Ergometer for Physiotherapy. (La posologie en physiothérapie; ergomètre donnant la puissance, les deux facteurs du travail mécanique et le nombre total de kilogrammètres produits par un sujet dans une séance d'ergothérapie active.) J. Bergonié.

Journal d'Urologie, Paris

November, IV, No. 5, pp. 733-892

61 *Non-Toxic Antigonococcus Vaccine. C. Nicolle and L. Blaizot.
62 *The Blood-Kidney Index in Kidney Disease. (Signification de l'index hémo-rénal.) R Bromberg.
63 Injury of Bladder from Impalement. (Blessures de la vessie par empalement.) M. Gerard. Commenced in No. 4.
64 Diagnosis of Stone in Ureter. F. Weisz.
65 Technic for Resection of Diverticulum in the Bladder. G. Marion.
66 Treatment of Certain Bladder Tumors. M. Heitz-Boyer.
67 Pliant Rubber-Whalebone Catheter for the Ureter. (De l'emploi de la bougie tortillée dans le cathétérisme de l'uretère.) P. Nougès.

61. See the Paris Letter in The Journal, Nov. 15, p. 1825.

62. **The Blood-Kidney Index in Kidney Disease.**—Bromberg expatiates on the importance of the information to be derived

from determination of the proportion of chlorids in the blood and in the urine. He states that in health the concentration in the blood is exactly one-half of the concentration in the urine, and this ratio of 1 to 2 is what he calls the hemo-renal index. He insists that the proportion in the urine or in the blood, taken separately, has not the least diagnostic significance, but comparison of the content in urine and the blood throws light on the functioning of the kidney. Determination of this index is the most practicable and simplest method of ascertaining the functional capacity of the kidneys. When the kidney is below par the elimination of chlorids is the first function to suffer: the nitrogenous substances never are retained while the inorganic salts continue to pass normally into the urine. A change in the hemo-renal index is the first sign of disturbance in the functioning of the kidney. It points to some disturbance long before any other clinical or laboratory sign or tests show anything wrong. As soon as the hemo-renal index becomes less than 1 to 2, some serious kidney disturbance in kidney functioning must be suspected, but the index will persist normal if one of the kidneys is sound. If the index drops below 1 to 1.5, no operation should be attempted on either kidney. If it is still lower than this, the prognosis is extremely grave. The chlorid content of the blood and of the urine is readily determined by comparing their electric conductivity, and Bromberg has devised a small electric apparatus which shows the resistance to the electric current of each of the fluids in turn. The current passes through the fluid by ionizing the atoms of the electrolytic salts; the stronger the concentration, the greater the conductibility. He gives an illustrated description of his simple little apparatus, saying that it requires only a few drops of either fluid; the findings can be read at once, and no previous experience or skill is required.

Presse Médicale, Paris

November 22, XXI, No. 95, pp. 949-960

68 *Coxa Vara in Adolescents. A. Broca.
69 *Jet of Superheated Air in Treatment of Suppurating Wounds. (Traitement des plaies suppurantes par la douche d'air chaude.) H. Roziès.

November 26, No. 96, pp. 961-968

70 Cancer Protozoa and Their Cultivation. F. J. Bosc.

November 29, No. 97, pp. 969-980

71 Operative Treatment of Acute Mastoiditis. (Trépanation mastoidienne.) G. Mahu.

December 3, No. 98, pp. 981-988

72 Apparatus for Excentric Extension of Stumps after Fracture of Leg. (Appareil pour le traitement des fractures de la jambe par embrochage et propulsion excentrique des fragments: Méthode de Lambret.) E. Quénu and P. Mathieu.

68. **Coxa Vara of Adolescents.**—Broca gives an illustrated description of coxa vara, its aspect and physical signs and the anatomic mechanism. The development of the deformity can be explained most plausibly by assuming some chronic pathologic process, and this was evident in a typical case reported. It commenced two years ago with slight pain in both hip joints occasionally, most marked on the left side. Little by little the lad had to give up bicycling and other sports as his hip joints tired easily and hurt him. He noticed that it was harder for him to stoop over and sit down; after eighteen months there was pain in the left knee. Pain in the knee is often merely a symptom of disease in the hip joint. The pains in hip joint and knee are not severe but persisting and aggravated by fatigue; the pain grows less, however, after the joints are warmed up by exercise. Notwithstanding the two years that have elapsed since the first sign of trouble, there is no displacement of the head of the femur, no swelling or suppuration, and the limb is inclined to flexion, abduction and outward rotation, contrary to what is observed with tuberculous coxitis. Roentgenoscopy confirms the assumption that the neck of the femur lies in an abnormally horizontal plane, and if the lad or girl is obliged to do hard work, lift heavy burdens or be on the feet much of the time, the deformity and pains continue to increase. On the other hand, if the patient is kept in bed with extension applied to the thigh, time will be gained for the parts to become stronger so that although once established deformity cannot be undone, yet there is no further progress and practically normal conditions are restored before long.

69. **Hot Air in Treatment of Suppurating Wounds.**—Roziès expatiates on the bactericidal action of hot air and its desiccating influence, aiding in cicatrization. He states that he has been much impressed with its efficacy in the fourteen cases of open sores in which he has applied the method. He uses a small portable air pump turned by a hand crank or a pump worked by a pedal, the air heated by an alcohol lamp. The sore heals over more rapidly and certainly than under other measures, and the scar seems to be less disfiguring, smoother and more flexible. The effect was particularly noticeable in suppurating wounds that had failed to heal under other measures, especially torpid leg ulcers and traumatic or operative superficial lesions. Of course deep bone processes are not influenced to such an extent.

Revue de Chirurgie, Paris

November, XXXIII, No. 11, pp. 681-822

73 *Operative Treatment of Deformity from Ankylosis of the Knee. (Traitement sanglant des ankyloses vicieuses du genou) P. Brocq. Commenced in No. 9.
74 Hour-Glass Stomach with Torsion. (Estomac biloculaire avec torsion de la poche musculaire.) M. Bourcart.

73. **Operative Treatment of Crippled Knee.**—Brocq here concludes his long article on the treatment of vicious ankylosis of the knee, reviewing the various methods of treatment and the results obtained with them in various clinics. He reports a number of unpublished cases with illustrations of some of them and emphasizes the necessity for restoring the use of the limb as soon as possible to prevent the development of serious trophic trouble, which is usually progressive and is an imperative reason for early interference. When the angle of flexion is below 90 degrees, orthopedic resection is generally required. He says that there is no case on record above criticism which enables the assurance that a useful new joint can be made by the method of total grafts of a joint or even by interposition. The interval since has been too short for a conclusive judgment, but the results to date are encouraging to hope that certain adult patients may benefit by the attempt. Such operations are absolutely contraindicated in children on account of the inevitable injury of the cartilage. If any choice is legitimate as yet, Payr's method, interposing pedunculated flaps of fascia, seems the most promising. Brocq has applied this method in twelve cases. With operations hoping to restore the use of the joints, plastic operations on the muscles or tendons are generally necessary in addition. He advocates the use of an apparatus to measure and compare the knees and determine the degree of deformity and plan the method of procedure.

Revue de Médecine, Paris

November, XXXIII, No. 11, pp. 833-920

75 Closed Tuberculosis of the Kidney with Typical Symptoms of Bright's Disease. (La tuberculose rénale fermée à forme de mal de Bright.) J. Bret and Blanc-Perducet.
76 Causes of Osteomalacia. (Le syndrome ostéomalacique.) S. Bonnamour and A. Badolle. To be continued.
77 Case of Bilateral Tuberculous Pneumothorax. F. F. Martinez.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

November, XXI, No. 11, pp. 321-348

78 Dermoid Cysts of the Vesico-Uterine Pouch. Vautrin.
79 Desiccated Milk in Infant-Feeding. L. Poullot.
80 Radiography of Fetus in the Uterus. Potocki, Delherm and Laquerrière.

Semaine Médicale, Paris

December 3, XXXIII, No. 49, pp. 577-588

81 *Pyelitis in Children. L. Cheinisse.

December 10, No. 50, pp. 589-600

82 Improved Physiologic Solutions. (Nouvelles solutions physiologiques.) B. Schiassi.

81. **Pyelitis in Children.**—Cheinisse deplores the frequent neglect to examine the urine when infants and children develop fever of obscure origin. Few realize the frequency of suppuration in the urinary apparatus in young children; even cystitis is liable to be overlooked, to say nothing of pyelitis. In malarial countries where everything is ascribed to the malarial germ, colon bacillus cystitis or pyelitis is often treated with quinin alone; under it the general health grows progressively worse and no benefit from the drug in any way is apparent. Examination of the urine in such cases reveals

pus and colon bacilli The part played by kidney calculi in adults in the causation of pyelonephritis is taken by acute infectious diseases or gastro intestinal infectious processes in young children, especially as the kidneys in young children are particularly vulnerable to injury of all kinds The infants with pyelitis develop high fever and are extremely restless, children inclined to spasmophilia are liable to have convulsions, misleading the diagnostician to assume meningitis Anorexia, vomiting, diarrhea and mucous stools, rapid breathing, and a yellowish, even jaundiced tint and distressed expression show that the child is very sick There may be one or more chills, otherwise chills are rare in infants, even in malaria The child grows rapidly thin, the high continuous fever at first becomes remittent or intermittent, and typhoid may be erroneously diagnosed In older children the clinical picture may not be so severe, pallor, anorexia and periods of pyrexia alternating with non febrile periods Bosanquet has reported the case of a boy of over 2 who had periods of pyrexia regularly every four or five days, in a girl of 6 the periods of pyrexia came on about the tenth or fifteenth day and in the intervals she seemed in normal health

There are no local signs in the majority of cases, especially in infants Left untreated, the pyelitis is liable to become chronic while as a rule it is amenable to proper treatment As the cause of the pyelitis is probably some obstruction to the flow of urine in the kidney pelvis, and as this in young children can usually be remedied by forcing the urine, the aim in treatment should be to induce copious secretion of urine to flush out the kidney pelvis by drinking large quantities of fluids All agree as to the importance of this, but opinions differ as to the wisdom of giving drugs to sterilize the urine Lenhartz denounces them at any age, saying that the best treatment is to have the patient drink three or four times a day a pint of hot infusion of linden flowers which mechanically clears out the urinary apparatus, keeping this up for weeks and even for months Goppert and Langstein recommend the use of hexamethylenamin and salol alternately. The former gives children from 2 to 9 months old, 0 05 gm of salol five to eight times a day, and children up to 2 years, 0 2 gm five or eight times a day Langstein gives, even to infants, from 0 1 to 0 3 gm four times a day and 0 5 for older children Still advocates potassium or sodium citrate enough to keep the urine alkaline day and night for a week or ten days at least

Beitrage zur klinischen Chirurgie, Tubingen

October, LXXXVII, No 2, pp 317 538

83 Surgery for Mesenteric Vessels and Intestinal Infarcts A Reich
84 Resection of Larynx and Esophagus for Cancer of the Hypopharynx with Survival for a Year A Hoffmann
85 Operation for Undescended Testicle (Operative Behandlung des Leistenhodens) K Hanusa
86 Fatal Necrosis of Jaw from Ulcerative Stomatitis in Man with Latent Gastric Cancer K Hanusa
87 Large Calculus in Kidney (Riesennierenstein nebst Bemerkungen zur Frage des Einflusses der Nierenarterien auf die Steinbildung) A Grave
88 Fracture of Lower Tibia and Fibula H Hilgenreiner
89 *Functional Disturbances in Neighboring Organs after Operations for Goiter (Ueber die nach Kropfoperationen auftretenden Funktionsstorungen der Nachbarorgane) R Pampel
90 Varnish for Dressing Wounds (Bakteriologische Untersuchungen uber Mastixlosungen) M Borchardt
91 *Incarceration of [illegible] Zur Kenntnis der
92 [illegible] of Cancer W
93 *Vascular Disturbances in Diseased Appendix (Zur Frage der Colica appendicularis) E v Redwitz

89 **Functional Disturbances in Neighboring Organs after Operation for Goiter.**—Pampel gives a detailed study of the anatomy of the region and reviews the experiences since 1900 with 182 patients who were operated on for goiter, the list includes only three with exophthalmic goiter Severe postoperative disturbances in swallowing are extremely rare They are connected with paralysis of the recurrent nerve, and when this occurs the patient must be fed exclusively through a tube and with the foot of the bed raised to keep the throat region low so that no fluids or solids will get into the air passages Collaterals develop rapidly and by the end of a week the patient is able to swallow approximately normally, Of the nine patients with postoperative unilateral recurrent paralysis, one has been lost track of, one has completely recovered, two are still in the same condition and in two the condition has grown worse, but speech is not impaired in one, in the other the paralyzed vocal cord has atrophied Postoperative laryngeal trouble occurred in thirty two instances, that is, in 17 58 per cent of the total material, but in all but the above nine the edema, hemorrhage or paresis proved briefly transient.

91 **Incarceration of Undescended Testicle.**—The patient was a man of 24 and the testicle was functionally destroyed by the seven hours of interference with its circulation The shock and collapse were extreme as usual in these cases from the intense pain

93 **Vascular Changes in the Appendix**—Von Redwitz gives four colored plates to illustrate his long article describing the conditions found in the vessels in an inflamed appendix Periodical colic like pain with appendicitis is probably the result of changes in the arteries, causing pain like that of intermittent claudication and from the same mechanism The pain ascribed to a movable colon may be due to the same cause He summarizes 132 cases and gives several pages of bibliography.

Berliner klinische Wochenschrift

November 24, L, No 47, pp 2171 2216

94 Cerebellum Tumor Successfully Removed (Ungewohnliche Kleinhirngeschwulst, durch Operation geheilt) F Krause
95 Transplantation of Vessel in Treatment of Aneurysm (Zur Operation des Aneurysma mit Gefasstransplantation) E Unger
96 *Extravasation of Blood in Joints (Ueber Blutergelenke) O Mankiewicz
97 *Research on Gastric Secretion (Unsere Methoden zur Untersuchung der Saftsekretion des Magens und Ersatz derselben durch Sekretionskurven) M Skaller
98 *Splenectomy for Pernicious Anemia (Einfluss der Milzexstirpation bei pernicioser Anamie) O R C Huber
99 Abderhalden's Serodiagnosis in Psychiatry M Theobald
100 Abderhalden's Serodiagnosis of Pregnancy (Praktische Erfahrungen mit der biologischen Schwangerschaftsreaktion nach Abderhalden—Dialysierverfahren) A Scherer
101 The Skin Reaction in Syphilis (Zur Cutireaktion bei Lues und ihre Beziehung zur Wassermannschen Reaktion) R O Stein
102 Mechanism of Action of Mercury in Spirilloses (Zur Erklarung der Wirkungsweise des Quecksilbers bei den Spirillosen) B Hahn and Kostenbader
103 Gauge for Radiotherapy (Eine Absorptions bzw Dosierungstafel fur Radium und Mesothoriumbestrahlung) Weckowski
104 Treatment of Asthma by Vibration and Inhalation O P Gerber
105 Alimentary Deposits of Fat in the Heart Muscle (Alimentare Herzmuskelverfettung) C Wegelin Commenced in No 46

96 **Blood in Joints**—Mankiewicz refers to the extravasation of blood in the joints of hemophiliacs and discusses the three stages of the trouble, the accumulation of blood, the consequent irritation of the joint and the resulting crippling of the joint He gives roentgenograms of the knee in some cases with a history of hemophilia; the knees show traces of the panarthritis, the joints having become inflamed from the presence of the blood The changes seem to be quite characteristic, and roentgenoscopy may thus disclose an unsuspected tendency to hemophilia in patients with joint trouble The joint in this second stage is swollen and feels hot, while the x ray shows the bones atrophied and deficient in lime The surfaces of the bones and cartilage are rough and there are small patches of darker shadow at the capsule with rarefication of the condyle tissue, especially the internal The epiphysis line is remarkably distinct for adult males but it is jagged, the quadriceps is atrophied The roentgen findings resemble those with chronic deforming arthritis, the permeability of the bones for the rays show the lack of the normal proportion of lime This transparency of the bones may be pronounced even in the shoulders and feet

97 **Test for Gastric Secretion**—Skaller's method aims to supplement the findings with the test breakfast, recording conditions as to the course of the secreting functions, showing progress under treatment The patient swallows a duodenal tube with several openings It is kept from passing through into the duodenum by having the tube too short to pass the pylorus Patients soon learn to swallow this narrow tube—the lumen is not over 2 mm —and it causes no discomfort nor

tendency to vomit even when left for hours. The patient swallows the tube, fasting, and then takes 200 gm. of Liebig's meat extract, at room temperature. Every five minutes 3 or 15 c.c. of stomach content is aspirated through the tube and the acidity titrated. To ensure mixing of the stomach contents, air is forced in through the tube each time before siphoning out the contents. The proportion of acid found is recorded on a chart, and an objective oversight is thus obtained of conditions in regard to gastric secretion Some of the curves given show the fluctuating course of the acidity, so that the findings at different times within the hour are thus seen to vary within a wide range.

98. **Splenectomy for Pernicious Anemia.**—The remarkable improvement that followed splenectomy in the case reported suggests that the spleen must be a much more important factor in pernicious anemia than hitherto suspected. It seems to acquire a very destructive action on the red blood corpuscles while at the same time exerting an influence on the bone marrow, checking the production of new red corpuscles This pathologic disturbance in the functioning of the spleen is evidently the result of the myeloid changes in the spleen which have hitherto been comparatively disregarded. Removal of the spleen therefore does not remove the cause of the disease, but it does away with the source of several of the most serious elements in the disease The bone-marrow may recuperate completely in mild cases when this disturbing element drops out, and even if it is unable to do this, the general condition improves when the red corpuscles which are produced cease to be destroyed in such wholesale numbers when the spleen is gone. His patient was a woman of 34 with a history of well treated syphilis four years before. The pernicious anemia was in a threatening stage, hemoglobin 15 per cent. and only slight benefit was realized from repeated intragluteal injection of 20 or 25 c.c. of defibrinated blood. The splenectomy took only twenty minutes; in future he will ligate the different arteries preliminary to removing the spleen as this would save a lot of blood. Fully 150 c.c. of blood flowed from the spleen after its removal. The patient felt better by evening and the improvement was pronounced the next day and later. By the fifth week the hemoglobin was 50 per cent. and the reds numbered two and a half millions. There was no further edema, jaundice or urobilinuria. The seventh week the progress toward recovery seemed to stop and the hemoglobin dropped to 42 but increased to 43 under repeated injections of blood. The patient is now taking fresh beef spleen. She is up and about and cheerful to date, in marked contrast to her desperate condition before the splenectomy.

Correspondenz-Blatt für Schweizer Aerzte, Basel

November 29, XLIII, No 48, pp 1569-1600

106 Nature of Action of Specific Drugs (Wesen der spezifischen Arzneimittelwirkungen) M Cloetta
107 Diabetic Foods on the Market (Ueber Diabetikergebäcke des Handels) F Naf
108 Medical Insurance in Germany (Am Vorabend des Kampfes des deutschen Aerztestandes mit den Krankenkassen) Haberlin

Deutsche medizinische Wochenschrift, Berlin

November 27, XLVIII, No 48, pp 2329-2384

109 *Treatment of Syncope, Shock and Collapse (Behandlung akut bedrohlicher Erkrankungen II) Grober
110 Development of the Mind (Entwicklung der psychischen Tatigkeit) W v. Bechterew Commenced in No 47
111 Clinical Study of Disturbances in the Intermediate Metabolism (Alkaptonurie mit Ochronose und Osteo Arthritis [illegible] Umber and M Burger
112 * [illegible] ein Diet against Tuberculosis im Tierexperiment) O Ihnemann and E Thomas.
113 *Detaching the Lung in Treatment of Tuberculous Cavity (Behandlung der kavernosen Phthise durch extra und intrapleurale Pneumolyse) A. Mayer
114 Polyps in the Stomach (Ueber Magenpolypen) G Ladderhose.
115 Roentgen Therapy of Bubo W. Wittig
116 Foreign Bodies in the Esophagus (Oesophagoskop oder [illegible]) T. Jurasz
117 [illegible] Action of Alcohol in Respect to Solu [illegible] Berceller.

109. **Treatment of Faint, Shock and Collapse.**—Grober says that the first thing is to feel of the pulse. If the symptoms suggest lack of blood in the head, the foot of the bed should be raised or the lower part of the body can be lifted. The easiest way to arouse the patient from his lethargy in case of severe syncope is with a towel wet with cold water with which the skin is slapped at various points, thighs, chest, back and arms, avoiding carefully the abdomen. At the same time the legs and the soles are rubbed vigorously with a dry cloth or hard brush As the face loses its livid aspect, the lids and lips move, the first complaint is generally of the cold, and the skin still feels cold with a clammy sweat. Then the patient is warmly covered, hot bottles are placed in the bed, and he is given hot drinks, brandy and water, hot bouillon or meat extract As he recovers, the room is kept quiet and darkened, with someone to watch over the pulse and respiration, keep the patient horizontal, and keep out the anxious family A moderately severe syncope of this kind is liable to be brought on by the vitiation of the air in crowds and by fright and horror. The anemic and those with heart and lung disease succumb more readily, and the condition is more refractory to treatment. The physician must act promptly and vigorously in such cases; long hesitation may be disastrous The severer forms may prove directly fatal. Grober emphasizes the danger in such cases from constriction by clothing, tight collar or belt. Sometimes a knife, with the edge turned away from the patient, cutting the tight bands or garters, may work wonders Stimulation of the mucosa with vinegar, ammonia or the like, or mechanical stimulation of the nasal mucosa with a feather or spear of grass may prove useful, especially if the feather is scorched to add the pungent odor. An additional measure is to bandage the limbs from the periphery upward to induce autotransfusion. The pulse often grows very much better. Stimulating enemas were formerly much used and may prove of some assistance, 30 or 75 c.c. of brandy in two or three times this amount of hot water. Some of the above measures should be applied with energy but not too long, and if the pallor, small pulse and shallow breathing keep up, stimulants for the heart are necessary. He has seldom witnessed any benefit from epinephrin in shock and collapse, and thinks it is more rational to give digitalis instead.

Respiration can be promoted by pressing on the costal arch region to pump more air out and in, or maneuvers for artificial respiration may be systematically applied. A few minutes may restore the respiration to normal conditions but sometimes it must be kept up for hours, with an assistant for each arm, changing places every seven minutes to pump the other arm. The tempo should not be more than 15 or 20 to the minute. Slapping the heart region with the flat hand, about seventy times a minute, is preferable to rougher manipulations; in the very lean the heart may be directly grasped upward through the diaphragm if the abdominal wall is much relaxed, but it must not be forgotten that the left lobe of the liver is acted on at the same time. In the agitation of shock, notwithstanding the weakness of the pulse and respiration, sedatives may be needed along with the stimulants for the heart The aspiration of vomit must be prevented by keeping the head turned to the side, and wiping out the mouth and throat with the finger wrapped in gauze or with a gauze sponge. The patient must never be allowed to sit up in the first few hours after a severe syncope; the headache and insomnia are best combated by lowering the head. The dangers of collapse and shock must not be aggravated by any further loss of blood, consequently no operation should be done until the centers in the medulla oblongata have resumed their functioning. Patients who have severe syncope, shock or collapse should be kept under supervision for some time afterward to protect them against relapses and further injury of organs

112. **Protecting Influence of Protein Diet Against Tuberculosis.**—The experimental research reported showed that young pigs fed systematically with casein were much more resistant to inoculation of tubercle bacilli than others of the same litter fed with carbohydrates or fats

113. **Decortication of the Lung in Treatment of Tuberculous Cavity.**—Mayer says that when conditions prevent injection of a gas to effectually compress the lung, about equally

good results may be obtained by loosening the lung from outside and inside the pleura, directly over the cavity. The lung may collapse immediately when the pleura is detached, and stay collapsed.

Medizinische Klinik, Berlin

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The serotherapy by no means does away with the necessity for chloral or morphin. The dosage must be proportional to the age of the patient and the severity of the tetanus. Some clinicians give very large doses of chloral, but Permin thinks it is wiser to keep below the maximum dose and supplement the chloral with morphin, keeping the patient in a quiet, darkened room. It is of the utmost importance that the patient should get adequate nourishment as the resisting powers depend to such an extent on this. Fluid foods are best and with extreme lockjaw it may be necessary to pull a couple of teeth to permit the introduction of a rubber tube through which fluid nourishment can be poured into the mouth. If there is spasmodic contraction of the muscles of swallowing, a dose of chloral half an hour beforehand will help to relax the spasm. If the paroxysms recur with threatening frequency or severity, all should be in readiness to give a few whiffs of ether or chloroform. Intraspinal injection is urgently required in all cases of local tetanus; it acts here the same as if injected into the nerve while the technic is much simpler and easier.

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In only three of his fourteen cases of chronic eczema was a cure realized, and nine were entirely uninfluenced. His success surpassed all expectations in six cases of obstinate sinusitis in the accessory cavities of the nose. General streptococcus infection is less promising for vaccine therapy, and the treatment failed completely in his eight cases of erysipelas of the face and in four at other points, but in two cases of erysipelas of the arm distinct benefit was apparent. Acute streptococcus affections contra-indicate vaccine therapy, but it may help in the subacute and chronic cases, especially with scarlatinal complications and migrating erysipelas. Vaccine therapy is especially effectual in gonorrheal arthritis, most so when associated with means to induce stasis hyperemia. Good results from vaccine therapy have also been reported with epididymitis and, less constantly, with pyosalpinx. Failures have been reported in all forms of gonorrheal catarrhal mucous membrane affections, such as urethritis, endometritis and conjunctivitis. Great caution is necessary with general gonorrhea, especially when there is endocarditis. Stock vaccines are of no use with colon bacilli, and vaccine therapy in general is of use only in the chronic forms and in these only, as a rule, when the urinary apparatus is involved and only when there is a pronounced reaction. In chronic colon bacillus cystitis and pyelitis a vaccine in combination with other measures may hasten the cure but the urine is not freed from the bacilli in every instance. Vaccine therapy is promising also in certain diseases among cattle, such as contagious vaginal catarrh, and in strangles in horses.

131. **Ulcerative Colitis.**—Schmidt states that fifteen of his thirty patients with severe ulcerative colitis were treated with internal measures alone, and eight were cured and one improved. Among the fifteen operative cases he records only two cures and seven improvements. He tabulates thirty cases from the literature to compare with them, and comments on the severe complications liable with the colitis, thrombosis, polyarthritis, exophthalmic goiter, pneumonia, multiple neuritis and embolism in ten of the cases, all evidently of septic

origin. No permanent cure was ever realized from medicines by the mouth although calomel and ipecac have helped. Better results were attained with drugs by the rectum, given with acacia in weak concentration to refrain from irritating, supplemented by external heat and other symptomatic measures.

133. **Local Retention of Iodin in Segregated Region.**—Salomon refers to Bier's method of enhancing the therapeutic action of stasis hyperemia in surgical tuberculosis by giving at the same time potassium iodid internally. Salomon investigated conditions afterward in twelve persons and in rabbits given similar treatment; the data all confirm the remarkable retention of the iodid in the edema fluid and tissues in the segregated limb. The retained iodin is not eliminated when the constricting band is removed but remains stored up in the tissues for a time. The practical importance is obvious of this retention of therapeutic substances under the influence of stasis hyperemia. Others have reported similar storing up of salicylic acid under the same conditions. We are able thus to supply the healing drug almost directly to the diseased tissues and in the strongest concentration possible. We can inject a drug directly into the focus and hold it there by this means without fear of general toxic action. In one of the eight cases reported a chronic rheumatic affection of the hand became very much swollen and worse under the iodid and constriction of the shoulder. After subsidence of these phenomena, however, the condition was found materially modified for the better.

Münchener medizinische Wochenschrift

November 25, LX, No. 47, pp. 2601-2656

134 *Iron and Magnet in Prophylaxis and Treatment of Peritoneal Adhesions. (Eisenfüllung des Magendarmkanals und Elektromagnet.) E. Payr.
135 The Tender Points in the Spine with Ulcer at Different Points in the Stomach. (Zur Diagnostik der Lokalisation des Magengeschwüres.) T. v. Openchowski.
136 Is a Diathesis a Constitutional Anomaly? H. Pässler.
137 Diphtheria Toxin Skin Reaction. (Die Diphtherietoxin-Hautreaktion des Menschen als Vorprobe der prophylaktischen Diphtherieheilseruminjektion.) B. Schick.
138 *Roentgen Treatment of Tuberculous Lymph-Nodes in the Neck. Fritsch.
139 *Serotherapy in Scarlet Fever. (Scharlachrekonvaleszentenserum.) R. Koch.
140 *Dietetics on Basis of Recent Discoveries in Regard to Beriberi, etc. (Diät und diätetische Behandlung vom Standpunkt der Vitaminlehre.) C. Funk.
141 Leukocyte Count. (Die Differentialauszählung der weissen Blutkörperchen in der Zählkammer.) H. Dunzelt.
142 *Spring Splint as Aid in Treatment of Tabetic Ataxia. (Mechanische Behandlung der tabischen Ataxie.) H. v. Baeyer.
143 Hot Air in Treatment of Severe Burns. (Behandlung einer ausgedehnten schweren Verbrennung mit dem Warmluftstrom.) K. Frankhauser.
144 *Systematic Addition of an Emetic to Narcotic Drugs as Safeguard against Suicides and Mistakes. (Schutz vor Schlafmittelvergiftungen.) W. Cimbal.
145 From the Balkan War. (Aus den griechischen Kriegslazaretten zu Saloniki und Athen am Ausgang des zweiten Balkankrieges.) Friedrich. Commenced in No. 46.
146 The Physician Cannot Treat His Own Family. (Die Hohe Schule für Aerzte und Kranke. XIII.) M. Nassauer.

134. **Magnet in Prophylaxis and Treatment of Peritoneal Adhesions.**—To fill the gastro-intestinal tract with a suspension of reduced iron or other form of iron and then move parts of the tract around at will by applying a very large magnet to the abdominal wall, is Payr's ingenious idea. He gives a number of illustrations to show the way in which the iron-filled intestine rises up in a peak in response to the attraction of the magnet, or several loops of intestine crowd together at the point nearest the magnet. The movements of the loops can be seen through the abdominal wall as it bulges above them and they can be inspected still closer with the Roentgen screen. He has been experimenting with various forms of iron for the purpose, and various applications of the method, finding that artificially induced adhesions could be broken up by the force of the magnet. One of his illustrations shows how the fine particles of iron in the bowel under the influence of the magnet arrange themselves in the curved lines familiar in the study of physics as the magnetic lines of force. Payr states that the most scrupulous macroscopic and histologic study of the intestines afterward failed to show the slightest injury from the procedure, not even a trace of capillary hemorrhages in the intestines where they had been drawn up and long held against the abdominal wall. The method was applied also to two thin women, one of whom had symptoms suggesting trouble from adhesions in the region of the sigmoid flexure. The application of the magnet to this point, after an enema of the iron suspension, caused distinct local pain. The magnet applied elsewhere to either women was not felt subjectively in any way. He used a magnet like those made to extract metal particles from the eye, but this is awkward for the purpose, and he is now trying a smaller magnet, with a force of about 75 kgm., mounted on a standard with counterweight, convenient to apply to the erect or reclining patient. He gives a list of ten different indications for which the method seems promising, including the stimulation of peristalsis when there is a tendency to postoperative paresis of the bowel, reduction of torsion and invagination and correction of sagging of the bowel, enteroptosis. By varying the amount of iron, the force of the magnet and its distance, the procedure can be adapted to individual dosage, and the movement can be produced in any desired direction under direct visual control with the Roentgen rays. He fed some of the rabbits and guinea-pigs with 1 or 2 gm. of ferrous oxid daily and their health did not seem to be affected in the least. Others were given the iron in a flour gruel or suspended in agar-agar. In the clinic it might be better to give the iron in a capsule. Both reduced iron and ferrous oxid can apparently be taken with impunity as both are insoluble in weakly alkaline mediums, and nothing to suggest injury was discovered in the experimental research and clinical experiences reported.

138. **Roentgen Treatment of Tuberculous Lymph-Nodes in the Neck.**—Fritsch has applied this treatment in thirty-three cases during the course of a year, the ages of the patients between 7 and 30; eight are entirely cured and eight much improved. Accompanying tuberculous lesions elsewhere reduce the prospects of success. In four cases a hard lump was left which he cut out, and he extols the advantages of thus combining treatments. The roentgenotherapy is liable to prove effectual without leaving a disfiguring scar and without the necessity for operating under general anesthesia. It can be applied also without interfering with the patient's occupation, but a six months' course is generally necessary. He followed Kienböck's technic in every case.

139. **Serotherapy in Scarlet Fever.**—Koch reports an additional series of 28 cases, bringing the total to 40 in which scarlet fever patients were treated with serum from others convalescing from the disease. In all the scarlet fever was of a very severe type. Of the total 263 cases of scarlet fever in the last year, 6.5 per cent. of the children developed nephritis and 1.1 per cent. died. Of the 12 treated with normal human serum 16.7 per cent. developed nephritis and 8.3 per cent. died, while of the 28 treated with serum from convalescents, none developed nephritis and only one already moribund patient died. The effect of this form of serotherapy was most striking in the cases of severe toxic scarlet fever without complications; in fact the serotherapy does not seem to act on complications. The curves from a number of cases are given to illustrate the prompt and beneficial action of serotherapy in this form. The communication issues from the public hospital at Frankfurt a.M.

140. **New Bases for Dietetics.**—Funk refers to the recent discoveries in regard to the importance of certain minute quantities of certain substances in the food the lack of which entails disturbances of which beriberi is an extreme type. (Discussed editorially in THE JOURNAL, 1913, lx, 1543.) These special substances may be destroyed in the cooking, by overheating (milk), by taking out in boiling, by carrying desiccation too far (especially in feed for cattle), and by discarding the outer covering of grains, especially rice, corn, wheat and rye. A loss of appetite and repugnance for food he regards as an early sign that the system is suffering from lack of these special substances or vitamines, as they have been named. The diet should at once be modified to supply variety and sufficient amounts of the vitamines, a digestible, light mixed

good results may be obtained by loosening the lung from outside and inside the pleura, directly over the cavity. The lung may collapse immediately when the pleura is detached, and stay collapsed.

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The serotherapy by no means does away with the necessity for chloral or morphin. The dosage must be proportional to the age of the patient and the severity of the tetanus. Some clinicians give very large doses of chloral, but Permin thinks it is wiser to keep below the maximum dose and supplement the chloral with morphin, keeping the patient in a quiet, darkened room. It is of the utmost importance that the patient should get adequate nourishment as the resisting powers depend to such an extent on this. Fluid foods are best and with extreme lockjaw it may be necessary to pull a couple of teeth to permit the introduction of a rubber tube through which fluid nourishment can be poured into the mouth. If there is spasmodic contraction of the muscles of swallowing, a dose of chloral half an hour beforehand will help to relax the spasm. If the paroxysms recur with threatening frequency or severity, all should be in readiness to give a few whiffs of ether or chloroform. Intraspinal injection is urgently required in all cases of local tetanus; it acts here the same as if injected into the nerve while the technic is much simpler and easier.

128. **Vaccine Therapy.**—Wolfsohn discusses the various affections in which vaccine therapy seems promising and reviews the results realized to date. He has seven years' experience of the method. All clinicians seem to agree that properly applied vaccine therapy is harmless. Any aggravation of the condition that may occur later probably would have occurred the same without the vaccine therapy. The danger of anaphylaxis seems to be negligibly slight; at least. to date nothing has been known of a threatening character in this line. Even the greatest skeptics must be convinced of the beneficial results in certain affections. Still better results may be anticipated when the vaccine therapy is supplemented by other therapeutic methods, especially chemotherapy, and when the desired clinical reaction is realized with the least dangers by utilizing vaccines made with the least possible injury of the antigen elements. He has applied vaccine therapy to thirty-four acne patients, and nine were not influenced in the least; nine were temporarily improved, and sixteen were completely cured of their long rebellious acne. No benefit was apparent in his twelve cases of postoperative osteomyelitis fistula, nor in six of mastitis, but his success in six cases of furunculosis in infants justifies further trials with small doses. Vaccine therapy to date has been applied in about 2,000 cases of furunculosis in adults, but the published records do not state whether the trouble was old and chronic in all the cases, while this alone calls for vaccine therapy. In his thirty-two cases the furunculosis had lasted from two to twenty years, and twelve of the patients were completely and twelve others partly cured. In eight others no influence from persevering vaccine therapy was apparent. The cure has persisted from one to three years to date. A polyvalent vaccine often proved effectual but autogenous vaccines were more reliable.

In only three of his fourteen cases of chronic eczema was a cure realized, and nine were entirely uninfluenced. His success surpassed all expectations in six cases of obstinate sinusitis in the accessory cavities of the nose. General streptococcus infection is less promising for vaccine therapy, and the treatment failed completely in his eight cases of erysipelas of the face and in four at other points, but in two cases of erysipelas of the arm distinct benefit was apparent. Acute streptococcus affections contra-indicate vaccine therapy, but it may help in the subacute and chronic cases, especially with scarlatinal complications and migrating erysipelas. Vaccine therapy is especially effectual in gonorrheal arthritis, most so when associated with means to induce stasis hyperemia. Good results from vaccine therapy have also been reported with epididymitis and, less constantly, with pyosalpinx. Failures have been reported in all forms of gonorrheal catarrhal mucous membrane affections, such as urethritis, endometritis and conjunctivitis. Great caution is necessary with general gonorrhea, especially when there is endocarditis. Stock vaccines are of no use with colon bacilli, and vaccine therapy in general is of use only in the chronic forms and in these only, as a rule, when the urinary apparatus is involved and only when there is a pronounced reaction. In chronic colon bacillus cystitis and pyelitis a vaccine in combination with other measures may hasten the cure but the urine is not freed from the bacilli in every instance. Vaccine therapy is promising also in certain diseases among cattle, such as contagious vaginal catarrh, and in strangles in horses.

131. **Ulcerative Colitis.**—Schmidt states that fifteen of his thirty patients with severe ulcerative colitis were treated with internal measures alone, and eight were cured and one improved. Among the fifteen operative cases he records only two cures and seven improvements. He tabulates thirty cases from the literature to compare with them, and comments on the severe complications liable with the colitis, thrombosis, polyarthritis, exophthalmic goiter, pneumonia, multiple neuritis and embolism in ten of the cases, all evidently of septic

origin. No permanent cure was ever realized from medicines by the mouth although calomel and ipecac have helped. Better results were attained with drugs by the rectum, given with acacia in weak concentration to refrain from irritating, supplemented by external heat and other symptomatic measures.

133. **Local Retention of Iodin in Segregated Region.**—Salomon refers to Bier's method of enhancing the therapeutic action of stasis hyperemia in surgical tuberculosis by giving at the same time potassium iodid internally. Salomon investigated conditions afterward in twelve persons and in rabbits given similar treatment; the data all confirm the remarkable retention of the iodid in the edema fluid and tissues in the segregated limb. The retained iodin is not eliminated when the constricting band is removed but remains stored up in the tissues for a time. The practical importance is obvious of this retention of therapeutic substances under the influence of stasis hyperemia. Others have reported similar storing up of salicylic acid under the same conditions. We are able thus to supply the healing drug almost directly to the diseased tissues and in the strongest concentration possible. We can inject a drug directly into the focus and hold it there by this means without fear of general toxic action. In one of the eight cases reported a chronic rheumatic affection of the hand became very much swollen and worse under the iodid and constriction of the shoulder. After subsidence of these phenomena, however, the condition was found materially modified for the better.

Münchener medizinische Wochenschrift

November 25, LX, No. 47, pp. 2601-2656

134 *Iron and Magnet in Prophylaxis and Treatment of Peritoneal Adhesions. (Eisenfüllung des Magendarmkanals und Elektromagnet.) E. Payr.
135 The Tender Points in the Spine with Ulcer at Different Points in the Stomach. (Zur Diagnostik der Lokalisation des Magengeschwüres.) T. v. Openchowski.
136 Is a Diathesis a Constitutional Anomaly? H. Pässler.
137 Diphtheria Toxin Skin Reaction. (Die Diphtherietoxin-Hautreaktion des Menschen als Vorprobe der prophylaktischen Diphtherieheilseruminjektion.) B. Schick.
138 *Roentgen Treatment of Tuberculous Lymph-Nodes in the Neck. Fritsch.
139 *Serotherapy in Scarlet Fever. (Scharlachrekonvaleszentenserum.) R. Koch.
140 *Dietetics on Basis of Recent Discoveries in Regard to Beriberi, etc. (Diät und diätetische Behandlung vom Standpunkt der Vitaminlehre.) C. Funk.
141 Leukocyte Count. (Die Differentialauszählung der weissen Blutkörperchen in der Zählkammer.) H. Dunzelt.
142 *Spring Splint as Aid in Treatment of Tabetic Ataxia. (Mechanische Behandlung der tabischen Ataxie.) H. v. Baeyer.
143 Hot Air in Treatment of Severe Burns. (Behandlung einer ausgedehnten schweren Verbrennung mit dem Warmluftstrom.) K. Frankhauser.
144 *Systematic Addition of an Emetic to Narcotic Drugs as Safeguard against Suicides and Mistakes. (Schutz vor Schlafmittelvergiftungen.) W. Cimbal.
145 From the Balkan War. (Aus den griechischen Kriegslazaretten zu Saloniki und Athen am Ausgang des zweiten Balkankrieges.) Friedrich. Commenced in No. 46.
146 The Physician Cannot Treat His Own Family. (Die Hohe Schule für Aerzte und Kranke. XIII.) M. Nassauer.

134. **Magnet in Prophylaxis and Treatment of Peritoneal Adhesions.**—To fill the gastro-intestinal tract with a suspension of reduced iron or other form of iron and then move parts of the tract around at will by applying a very large magnet to the abdominal wall, is Payr's ingenious idea. He gives a number of illustrations to show the way in which the iron-filled intestine rises up in a peak in response to the attraction of the magnet, or several loops of intestine crowd together at the point nearest the magnet. The movements of the loops can be seen through the abdominal wall as it bulges above them and they can be inspected still closer with the Roentgen screen. He has been experimenting with various forms of iron for the purpose, and various applications of the method, finding that artificially induced adhesions could be broken up by the force of the magnet. One of his illustrations shows how the fine particles of iron in the bowel under the influence of the magnet arrange themselves in the curved lines familiar in the study of physics as the magnetic lines of force. Payr states that the most scrupulous macroscopic and histologic study of the intestines afterward failed to show the slightest injury from the procedure, not even a trace of capillary hemorrhages in the intestines where they had been drawn up and long held against the abdominal wall. The method was applied also to two thin women, one of whom had symptoms suggesting trouble from adhesions in the region of the sigmoid flexure. The application of the magnet to this point, after an enema of the iron suspension, caused distinct local pain. The magnet applied elsewhere to either women was not felt subjectively in any way. He used a magnet like those made to extract metal particles from the eye, but this is awkward for the purpose, and he is now trying a smaller magnet, with a force of about 75 kgm., mounted on a standard with counterweight, convenient to apply to the erect or reclining patient. He gives a list of ten different indications for which the method seems promising, including the stimulation of peristalsis when there is a tendency to postoperative paresis of the bowel, reduction of torsion and invagination and correction of sagging of the bowel, enteroptosis. By varying the amount of iron, the force of the magnet and its distance, the procedure can be adapted to individual dosage, and the movement can be produced in any desired direction under direct visual control with the Roentgen rays. He fed some of the rabbits and guinea-pigs with 1 or 2 gm. of ferrous oxid daily and their health did not seem to be affected in the least. Others were given the iron in a flour gruel or suspended in agar-agar. In the clinic it might be better to give the iron in a capsule. Both reduced iron and ferrous oxid can apparently be taken with impunity as both are insoluble in weakly alkaline mediums, and nothing to suggest injury was discovered in the experimental research and clinical experiences reported.

138. **Roentgen Treatment of Tuberculous Lymph-Nodes in the Neck.**—Fritsch has applied this treatment in thirty-three cases during the course of a year, the ages of the patients between 7 and 30; eight are entirely cured and eight much improved. Accompanying tuberculous lesions elsewhere reduce the prospects of success. In four cases a hard lump was left which he cut out, and he extols the advantages of thus combining treatments. The roentgenotherapy is liable to prove effectual without leaving a disfiguring scar and without the necessity for operating under general anesthesia. It can be applied also without interfering with the patient's occupation, but a six months' course is generally necessary. He followed Kienböck's technic in every case.

139. **Serotherapy in Scarlet Fever.**—Koch reports an additional series of 28 cases, bringing the total to 40 in which scarlet fever patients were treated with serum from others convalescing from the disease. In all the scarlet fever was of a very severe type. Of the total 263 cases of scarlet fever in the last year, 6.5 per cent. of the children developed nephritis and 1.1 per cent. died. Of the 12 treated with normal human serum 16.7 per cent. developed nephritis and 8.3 per cent. died, while of the 28 treated with serum from convalescents, none developed nephritis and only one already moribund patient died. The effect of this form of serotherapy was most striking in the cases of severe toxic scarlet fever without complications; in fact the serotherapy does not seem to act on complications.. The curves from a number of cases are given to illustrate the prompt and beneficial action of serotherapy in this form. The communication issues from the public hospital at Frankfurt a.M.

140. **New Bases for Dietetics.**—Funk refers to the recent discoveries in regard to the importance of certain minute quantities of certain substances in the food the lack of which entails disturbances of which beriberi is an extreme type. (Discussed editorially in THE JOURNAL, 1913, lx, 1543.) These special substances may be destroyed in the cooking, by overheating (milk), by laking out in boiling, by carrying desiccation too far (especially in feed for cattle), and by discarding the outer covering of grains, especially rice, corn, wheat and rye. A loss of appetite and repugnance for food he regards as an early sign that the system is suffering from lack of these special substances or vitamines, as they have been named. The diet should at once be modified to supply variety and sufficient amounts of the vitamines, a digestible, light mixed

diet including fresh fruit, vegetables, potatoes, meat, milk and butter, remembering that fruit and vegetables lose their vitamines by drying; they are also lost if the water in which they are boiled is thrown away. He adds a list of foods rich in vitamines, egg yolk, whole wheat and whole rye bread, moderately roasted meat, fresh vegetables and vegetable soups, fresh yeast, and cod liver oil. The discovery of the vitamines throws light on the superiority of breast milk for infants and on the injurious effect of too long or too high heating of cow's milk. The nursing woman must have a diet rich in vitamines; possibly cooked yeast might serve to promote production of milk in women as it has proved useful in dairies. In any event he thinks it is worth a trial. In conclusion he says that the question of the origin of pellagra is in the same stage now as that of beriberi ten years ago. One thing is certain, he declares, namely, that there is no endemic pellagra outside of corn-consuming districts. The drying of the corn may be responsible for the loss of its vitamines; and he thinks that corn is scarcely suitable for food At least it should be eaten only with articles particularly rich in vitamines, and the whole grain should be used.

142. **Mechanical Aid in Treatment of Tabes.**—Baeyer gives an illustration of a spring splint which he buckles to the leg and thigh with a metal sole. He has found it of great service in reeducating tabetics to walk. The splint enables the patient to perceive the position of the joints and the state of contraction of the muscles, as it checks mechanically both the active and passive movements of the limb and thus the patient gets much better control over the limb The benefit was constant and pronounced in all the cases in which he has applied the splint It can be used where a course of systematic training is impracticable for any reason or as accessory to these exercises

144 *Discussed editorially*

Therapie der Gegenwart, Berlin

December, LIV, No 12, pp 529 576

147 *Treatment of Albuminuria and Nephritis H Strauss
148 *Phenomena Suggesting Anaphylaxis Following Injections of Fibrolysin Dethleffsen
149 *Iodin Fumes Applied to the Throat to Exterminate Diphtheria Bacilli S Abel
150 Changing Tendencies in Surgery (Wandlungen in der Chirurgie) M Katzenstein
151 *Sudden Death after Local Anesthesia with Alypin in Case of Tuberculous Adrenal Process (Plotzlicher Tod nach Lokalanasthesie mit Alypin bei einseitiger Nebennierentuberkulose) A Proskauer
152 *Friedmann's Remedy for Tuberculosis F Klemperer.

147. **Treatment of Albuminuria and Nephritis.**—Strauss remarks that the progress in this line in the last twenty years has been mainly by determining and enlarging the principles on which the older methods of treatment depended. He regards it as great progress that attention has been diverted more to the constitutional form of albuminuria during, preceding and following puberty. Changes in the distribution of the blood-supply are mainly responsible for this orthostatic albuminuria and lordosis albuminuria. The recently acquired knowledge in this line has brought progress in that more active measures are applied *now:* change of climate to the mountains or the sea, extra nourishing food and physical measures to render the patient more robust. Especial care must be exercised to refrain from getting chilled. In regard to diet he says that in all his experience he has never encountered but one case in which there seemed to be injury from eggs in nephritis. The preparation of the food, especially the way meat and vegetables are cooked, is very important. He says in conclusion that decapsulation of the kidney can be recommended only in cases of long persisting extreme oliguria accompanied by uremic or suburemic phenomena, especially in acute nephritis; less in the chronic form. He recently witnessed remarkable benefit from decapsulation in a case of scarlet fever. The physician now, he reiterates, cannot be content with the old-fashioned way of treating nephritis, treating all patients on the same basis, with a certain monotony. He must differentiate the special points to be aimed at, with his therapeutic measures in each individual case

148. **Anaphylaxis after Fibrolysin.**—The fibrolysin was injected in treatment of pain in the region suggesting possible peritoneal adhesions, relics of an old gall-stone affection. After the tenth injection an extensive eruption, suggesting measles, suddenly developed. The patient was a woman of 64. The injections were suspended but were resumed three years later on return of the symptoms and vibratory massage was applied to the gall-bladder. After the third injection the patient seemed to be suddenly suffocating for a time, and a fourth injection was followed by a chill and fever with much distress and pain. The pains subsided after twenty-four hours and, a week later 2 c.c. of fibrolysin was injected anew, and again suffocation and distress followed. The phenomena observed can be explained only, he thinks, by accepting anaphylaxis. The fibrolysin was kept up, notwithstanding, to complete the course, and the beneficial effect was permanent.

149. **Iodin Sterilization of the Throat after Diphtheria.**—Abel thinks that little is accomplished by the ordinary methods of gargling the throat, etc. The only way to thoroughly sterilize the throat, he says, is in the form of vapor. Nothing else finds its way so infallibly as vapors into all crevices, and he advocates iodin for the purpose, generating nascent iodin by heating iodoform in a flask with two bent glass tubes through the rubber stopper, one tube connected with a rubber bulb, the other with a narrow rubber tube. When the flask fills up with the iodin fumes as the iodoform is heated over an alcohol lamp, he blows the fumes through the nostrils and into the pharynx, repeating this twice a day for three days He has thus treated eighty-nine patients with diphtheria bacilli lingering in their throats longer than three weeks after recovery from diphtheria. Of the total eighty-nine the bacilli had disappeared in 47 per cent. after a three days' course; 31.5 per cent. required two courses and 20 per cent three courses. Two patients proved absolutely refractory, no result from the treatment being apparent. Reexamination later in a number of the cases confirmed the thorough eradication of the bacilli.

151. **Fatality after Local Anesthesia.**—Proskauer reports that a man of 47 died suddenly after 20 c.c of a 2 per cent. solution of alypin had been injected into the bladder The only thing that could be found to explain this fatality was an extensive tuberculous process in the right adrenal. He theorizes to explain the mechanism of this fatality and cites three cases from the literature in which death followed at once after local anesthesia with cocain or novocain and in both cases necropsy revealed a tumor in the chromaffin substance.

152 Discussed editorially on page 47.

Virchow's Archiv, Berlin

November, CCXIV, No 2, pp 161 320

153 "Embryonal Adenosarcoma" in Boy's Kidney. F Wengraf
154 The Pancreas (Zur Pathologie der Bauchspeicheldrüse) K. Koch
155 Brain Complications of Whooping Cough (Die Gehirnkomplikationen des Keuchhustens mit bes Berücksichtigung der [illegible] ictiva interna ") B. Hada.
156 * [illegible] cer (Akzessorische Nebenpankreas und -adenokarzinom.) G Scagliosi.
157 *Autodrainage for Ascites (Experimente zur plastischen Aszitesdrainage, zugleich ein Beitrag zur Histologie implantierter Formolgefasse.) E Schepelmann
158 Aneurysm in Hepatic Artery (Disseziercndes Aneurysma mit Ausheilung durch totale Thrombose mit sekundärer Verkalkung und [illegible] H. Merkel.
159 Developments [illegible] Form von Entwicklungsst [illegible] A Heigel.

156. **Etiology of Duodenal Ulcer.**—Scagliosi discusses the various theories as to the origin of duodenal ulcer, and gives detailed histologic descriptions of specimens from several cases of his own. He concludes that self-digestion of the wall of the stomach or duodenum cannot take place so long as circulation and nutrition are normal. The chief cause is to be found in pressure on the blood-vessels by swollen Brunner's glands and accessory pancreatic cells. This disturbes nutrition and allows autodigestion to take place. Ulcer is generally secondary to duodenal adenoma.

157. **Plastic Drainage of Ascites.**—Schepelmann describes the case of a 65-year-old man with pronounced ascites from cir-

rhosis of the liver. There was also marked arteriosclerosis. A varicose vein the size of a lead pencil, hardened in formaldehyd solution was sewed into the peritoneum and for six and one-half weeks the fluid was conducted into the subcutaneous tissue where it manifested itself by doughy edema of the abdominal wall. Absorption took place from here through the blood and lymph channels. At the end of that time there was partial occlusion of the vein by fibrin. Therefore he recommends the use of larger vessels, a varicose vein as large as the thumb, for instance, or the aorta of a calf. Experimental work can be done on the human subject as there is no irritation and consequently no proliferation of connective tissue as there would be from the use of tubes of metal, rubber or glass.

Wiener klinische Wochenschrift, Vienna

November 20, XXVI, No. 47, pp. 1925-1972

160 Idiopathic Atrophy of the Skin of Congenital Origin. (Dermatitis atrophicans.) M. Oppenheim.
161 Experimental Electrocardiography of the Heart under Influence of Hypophysis Extracts. A. F. Hecht and V. Nadel.
162 Hernia of the Sigmoid Flexure without Hernial Sac. (Zur Therapie grosser Gleitbrüche der Flexur sigmoidea.) H. Finsterer.
163 Radium in Treatment of Cicatricial Stenosis of the Esophagus. F. Neumann.
164 *Ultimate Effect of Tonsillectomy. S. Tenzer.
165 *Permanent Therapeutic Pneumothorax. E. Rochelt.

164. **Effect of Tonsillectomy.**—Tenzer has been reexamining lately a number of children whose tonsils were removed over two years before, and states that there is nothing to indicate any deleterious influence from the tonsillectomy. On the contrary, the children bloomed into good health after the operation and the effect in abolishing the recurring attacks of acute tonsillitis was ideal.

165. **Permanent Therapeutic Pneumothorax.**—Rochelt introduces a trocar with a valve and hermetically closing cap which he introduces as for an ordinary artificial pneumothorax, but leaves the trocar permanently in place. This permits the refilling of the space with the gas as often as desired, without inconvenience to the patient. For this reason ordinary air can be injected and a gas, like nitrogen, is not needed. A special advantage of this retention trocar is that the air is more rapidly absorbed and consequently the compression of the lung fluctuates at times just enough to maintain the elasticity of the lung tissue. Another advantage is that the insufflations as needed do not require any special skill beyond insuring asepsis in the procedure.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXXV, No. 1, pp. 1-230. M. Hofmeier Festschrift

166 Ultimate Outcome of 524 Gynecologic Operations. (Die Dauererfolge 12 jähriger operativer Tätigkeit.) G. Burckhard.
167 Batteries for Two Pocket Electric Lamps Joined as Battery for Cystoscope. (Einfache Stromquelle für Cystoskoplampen.) G. Burckhard.
168 Exploratory Curetting Unreliable in Diagnosis of Cancer of Body of Uterus. G. Burckhard.
169 Cesarean Section, Symphyseotomy and Pubiotomy. (Ueber Kaiserschnitten, Symphyseotomien und Hebosteotomien.) O. Fischer.
170 Cleft Pelvis. (Spaltbecken.) O. von Franqué.
171 *Influence on Later Physical and Mental Development of Obstetric Impression of the Skull. W. Gfroerer.
172 Attempts at Criminal Abortion in Absence of Pregnancy; Three Cases. (Tentamen abortus provocande deficiente graviditate uterina, seine klinische und physiologische Bedeutung.) F. Hammer.
173 Congenital Atresia of Pulmonary Artery and Stenosis of the Aorta; Child Died Second Day. A. Häberle.
174 Absorbing Property of Some Ovarian Cancers. (Eine bisher nicht bekannte Funktion maligner Ovariatumoren.) G. Klein.
175 Multiple Malformations in Genital Organs. (Fall von Pseudoatresie der Scheide und Uterus bei persistierende Kloake und Uterus duplex cum vagina duplici septa.) C. Oertel.
176 Malignant Chorio-Epithelioma with Long Period of Latency. O. Polano.
177 The Lymphatics of Myomas. O. Polano.
178 *Modern Treatment of Osteomalacia. F. Schnell.
179 Operative Treatment of Incontinence of Urine and Extensive Genital Prolapse. P. Steffeck.

171. **Influence of Obstetric Impression of the Skull.**—Gfroerer states that at the Würzburg maternity obstetric impression of the skull is treated only as symptoms arise. In all the cases that came to necropsy other injuries were found more than sufficient to explain the fatality without incriminating the depression in the skull. Even such simple procedures as manipulating the skull to make it spring back into place or drawing it up with a corkscrew are liable to prove serious. In seven cases of obstetric impression in his service the pelvis had been too small to permit normal delivery and the injuries proved fatal. In seventeen other cases the pelvis was contracted but not enough to do serious injury and the children were born in good condition. Five died from intercurrent disease about a year later; the others have developed normally and no deleterious influence has been observed on the growth of the body or mind, not even in the cases of instrumental delivery.

178. **Treatment of Osteomalacia.**—Schnell reviews 334 cases of osteomalacia he has found recorded in the last fifteen years. All methods of treatment have had their successes and their failures, but castration seems to have been most constantly successful. Recurrence is known in only seven cases of the 105 in which the osteomalacia was combated by castration. No other method of treatment can compete with this record which has now a twenty-five-year history.

Zentralblatt für Chirurgie, Leipsic

December 6, XL, No. 49, pp. 1881-1912

180 Case of Retrograde Incarceration. H. v. Thun.
181 Pyramidon Keeps Off Pain in the Wound after Local Anesthesia. W. Wolf.

Gazzetta degli Ospedali e delle Cliniche, Milan

XXXIV, Nos. 140-142, pp. 1463-1494

182 Enhanced Toxicity of Cholera Toxins in Animals under the Influence of Heat Plus Humidity. V. Puntoni.
183 The Urochromogen Urine Reaction Instructive for Prognosis in Tuberculosis, but Unreliable for Diagnosis. B. Nicola.
184 *Tongue Sign in Neuropathies. (Nuova sintoma obbiettivo specifico nei nevropatici.) F. Pancrazio.

184. **Sign of Neurasthenia.**—Pancrazio states that for years Ancona and he have noticed that when they ask a patient to show them his tongue if he puts out his tongue in such a way that the back of the tongue and the throat are visible, further examination will almost inevitably reveal other signs of neurasthenia or a neurotic predisposition. Pancrazio calls it an actually specific objective neuropathologic sign, and explains it by the habit of the nervously disposed to examine their own tongues. They look at their tongue so often, and at their throat that the tongue becomes trained in submitting to examination and exposes itself readily and completely, while persons who do not take this morbid interest in examining their physical condition are unable to show the back of the tongue and the throat, as a rule, when told to put out the tongue.

Policlinico, Rome

November 30, XX, No. 48, pp. 1729-1768

185 Tr [illegible] ction in the Tuberculous. (Sulla reazione del permanganato [illegible] E. Salustri.
186 The Antituberculosis Campaign at Genoa. M. Ragazzi.
187 *Epinephrin in Treatment of Scarlatinal Kidney Disease. (L'uso dell'adrenalina nella cura della glomerulo-nefrite scarlattinosa.) D. Paoloantonio.

187. **Epinephrin in the Kidney Complications of Scarlet Fever.**—Paoloantonio states that he injected epinephrin to arrest hematuria in a child of 5, at the fifteenth day of scarlet fever, with signs of nephritis and edema. The urine contained ten per thousand albumin and numerous tube-casts while the amount of urine was constantly declining. Suddenly the fever ran higher and blood appeared in the urine, the output of urine growing still scantier. He then injected the epinephrin to arrest the bleeding and also perhaps stimulate the heart action which seemed weak. The third day he gave the epinephrin by the mouth as he saw that not only the blood had disappeared, but also the albumin had dropped to one-half the previous proportion; the edema was absorbed, the diuresis increased and the general condition notably improved. By the tenth day the urine seemed to be entirely normal. Encouraged by this success he applied the epinephrin also in thirty other cases of kidney trouble in scarlet fever, and found it equally effectual in all. By the second day the

condition showed marked improvement and the danger of uremia seemed to be averted. He gave from ten to twenty drops a day, by the mouth, of the usual one per thousand solution except where the urgency of the case called for subcutaneous injection at first.

Riforma Medica, Naples

November 15, XXIX, No. 46, pp. 1261-1288

188 Multiple Factors Cooperate in Production of Gastric Ulcer. V. Palmulli.

November 22, No. 47, pp. 1289-1316

189 Behavior of Agglutinins and Opsonins in Castrated Animals and Animals Injected with Testicle Products. Q. Torelli.
190 Transmission of State of Anaphylaxis from Mother Guinea-Pig to Young. V. Scafidi.
191 Cysts in the Spermatic Cord. (Contributo allo studio delle cisti del funicolo spermatico di origine connetivale.) B. Formiggini. Commenced in No. 46.

Rivista Ospedaliera, Rome

November 15, III, No. 21, pp. 917-964

192 *Beneficial Immediate Results of Therapeutic Pneumothorax. A. Angelini.
193 *Human Serum Therapy in Pulmonary Tuberculosis. (Di alcuni saggi di sieroterapia antitubercolare interumana in rapporto anche ad arresto di emottisi.) A. Miliani.
194 Roentgen Therapy in Lupus. D. G. Scaduto.

192. **Therapeutic Pneumothorax.**—Angelini states that in twelve of the nineteen patients treated by intrathoracic injection of a gas, anatomic conditions facilitated the pneumothorax and at one stroke the symptoms subsided. This immediate and certain suppression of the symptoms is naturally the more striking when the symptoms had been severe before. Unless the anatomic conditions favor the pneumothorax it is useless to expect much from it, and consequently its sphere is limited. On account of adhesions preventing the expansion of the pleura the method failed in two cases of hemoptysis.

193. **Serotherapy for Hemoptysis.**—Miliani applied serotherapy in thirty-five cases of various forms of tuberculosis, obtaining the serum from other patients convalescing from tuberculous serositis or using the effusion itself. The doses ranged from 2 to 150 c.c., but, as a rule, he injected between 10 and 50 c.c. every day or at intervals of one or two days. The injections were subcutaneous (220) or injected directly into the peritoneum or pleura (54), and the number ranged from three to thirty-three, averaging about five or ten except in the hemoptysis cases. The effects were constantly good in the cases of tuberculous pleurisy or peritonitis, the symptoms subsiding to a clinical cure. No recurrence is known to date —over six months—in any instance. In the cases with mixed infection little benefit was realized. The tendency to pulmonary hemoptysis was arrested in every case and by a single injection, and the hemorrhage was also permanently arrested in a case of hemorrhagic nephritis. This patient was a man of 28 free from tuberculosis, malaria and syphilis. The blood disappeared from his urine after the second injection of 50 c.c. from a healthy young man; 20 c.c. of the same serum apparently arrested rebellious hematemesis in a case of gastric cancer. In sixty-four of the 278 injections made the fluid was pleural effusion or ascitic fluid. These fluids cause various disturbances, chills, headache and abdominal pain if injected unmodified, but not if defibrinated and exposed to the sun for forty-eight hours. With this nothing was observed suggesting serum sickness.

Brazil Medico, Rio de Janeiro

October 22, XXVII, No. 40, pp. 426-437

195 Necessity for Testing Eyesight of Chauffeurs and Motormen. N. da Rocha.
196 Technic for Detection of Parasites' Ova in the Stools. (Meio rapidó para revelar ovulos de parasitas intestinaes nas fezes.) A. R. V. Lima.

November 1, No. 41, pp. 438-449

197. The Campaign against Tuberculosis. A. A. de A. Sodré.

November 8, No. 42, pp. 450-461

198 Epidemic Diseases in the Amazon District. (Notas sobre a epidemiologia do Amazonas.) C. Chagas.

Hospitalstidende, Copenhagen

November 26, LVI, No. 48, pp. 1415-1446

199 *Headache of "Rheumatic" Origin. (Om reumatisk Hovedpine.) P. Lorenzen.
200 Intermittent Ileus from Kinking of Splenic Flexure. I. Collin.

December 3, No. 49, pp. 1447-1478

201 Complement Deviation in Spinal Fluid. (Undersøgelser over Weil-Kafka's Hæmolysinreaktion i Spinalvæsken.) H. Boas and G. Neve.
202 From the Balkan Seat of War. (Fra serbiske Krigslazaretter.) J. Stürup.

199. **Rheumatic Headache.**—Lorenzen says that after excluding other causes for the headache we can sometimes explain it by discovery of tender lumps under the skin of the head and neck. There is evidently some inflammation of the fibrous tissue, causing the headache, and this fibrositis usually yields to skilful massage. The fibrositis generally involves more or less of the adjoining muscles in the neck and its first development may date from childhood. The chronic tendency of all rheumatic affections is evident here, and the intervals between exacerbations are short as a rule so that patients with headache from this cause are seldom long free from it at a time. The attacks are brought on by slight indiscretions in diet or exacerbations of a chronic throat or nose affection, or by long straining to write or watch a performance. The patient may wake with headache and a little stiffness in the muscles involved, and he remarks that he must have slept with his neck in some unnatural position. The constant slight irritation may entail nervous irritability. Chilling of the head may bring on an exacerbation; in women this may occur after washing the hair. When the rheumatic origin is suspected, the entire head, front and back and the neck should be palpated. During the periods of calm, palpation may not cause pain. When the nerves can be palpated on a firm background they may occasionally feel irregular and thickened, but this is rare. The scalp seems thickened in parts, and the skin at the base of the skull may lie in ridges. The pains are vague and hard to locate; the sensation is a vague feeling of oppression, pulling or tenderness of the tissues, and there may even be a tendency to dizziness. There is generally total relief from pain after the massage.

Ugeskrift for Læger, Copenhagen

November 27, LXXV, No. 48, pp. 1875-1912

203 *Treatment of Internal Tuberculosis with Stored Light Rays. (Fortsat Beretning om Behandling af Intern Tuberkulose med absorberet Lysenergi.) T. Brinch.

December 4, No. 49, pp. 1913-1970

204 *Chronic Suppuration in Infant's Ear. (Om det kroniske suppurative Øreflod i den spæde Barnealder og dets Profylaxe.) F. Pontoppidan.

203. **Utilization of Absorbed Light Rays in Therapeutics.**—A previous communication on this subject by Brinch was summarized in THE JOURNAL, Oct. 26, 1912, p. 1586. He here reports additional cases and reviews his experience with a total of seventy cases of pulmonary tuberculosis and a number of other localizations of tuberculosis. He regards the results as very encouraging. The effect of the treatment was much greater with surgical tuberculosis than with pulmonary lesions. This experience confirms Rollier's with direct sunlight, tuberculous lesions in lymph-nodes and bones being far more amenable to treatment by radiation.

204. **Chronic Suppuration in the Ear in Young Infants.**—Pontoppidan insists that this condition is more common than generally realized, and that it is frequently the unsuspected cause of deafness later and even of deafmutism. The discharge from the ear is liable to prove extremely rebellious to all measures and he explains this as owing to the peculiar anatomic conditions at this age in this region. The antrum is predominantly involved, and he declares that any suppuration in the antrum of an infant which persists for from four to six weeks, even if there are no symptoms except a profuse purulent discharge from the ear, should be treated without delay by cutting into the mastoid antrum. The anatomic conditions render the operation far simpler and easier than in adults, and even the youngest infants bear the little operation without harm. He has performed it in seven cases, as he relates in detail, the children under one or two years of age. In his 309 mastoid operations, 131 were on children under 15, including the seven infants..

Upsala Läkareförenings Förhandlingar

XIX, No. 1, pp. 1-97. Last indexed December 6, p. 2114

205 The Psychologic Examination. (Den individualpsykologiska frågeställningen inom psykiatrien.) H. Sjöbring.
206 Innervation of the Sternalis Muscle. A. Strandberg.

ing with the external cutaneous and anterior femoral nerves, and Pinkus[17] and Morris[18] have each reported a zoniform case. On the other hand, in the case shown before the Dermatological Society of the Netherlands, by Mendes Da Costa, in 1901, the groups of lesions were situated along the metameric segments of the skin described by Head, and there was no possible connection with the distribution of the peripheral nerves, cutaneous or subcutaneous veins, lymph vessels, or with the lines of Voigt. The lesions formed a linear band on the left leg, and a few were present on the right wrist. On the left leg the exanthem extended upward in two broad bands on the dorsal surface of the ankle over the anterior aspect of the lower part of the leg. Transversely over the upper third of the thigh, parallel with the groin, there was a curved band of efflorescences which extended almost around the limb.

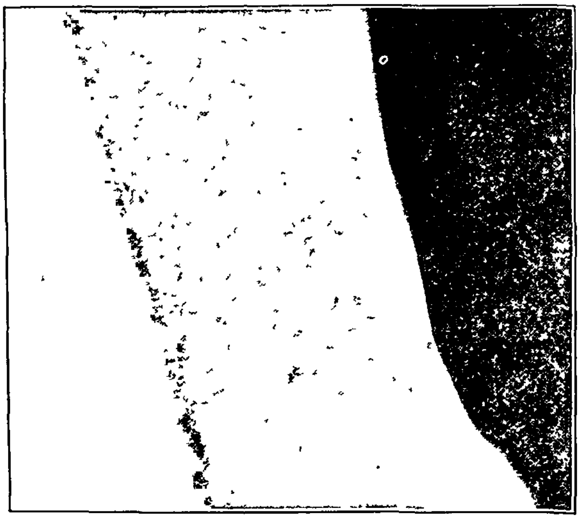

Fig 5, Case 2—Lichen planus bullosa, showing lesions on wrist.

In my opinion the most plausible explanation is found in those cases in which the eruption follows scratch-marks or other local injuries of the skin, as in the cases reported by Hallopeau and Jamier,[19] Morris,[20] Abraham,[21] West[22] and Walters.[23] It is a well-recognized fact that in certain systemic infections which are characterized by cutaneous eruptions, lues for example, the skin lesions are prone to exhibit a preference for areas of lowered resistance, such as abrasions of the integument due to scratches or tattooing, bruises, or irritation arising from retained excretions or the use of tobacco. Although the cause of lichen planus at present is unknown, I must agree with Norman Walker[24] and others that it presents all of the ear-marks of a generalized infectious process. The cases reported by Montgomery and Alderson,[25] Fordyce[26] and Engman and Mook[27] uphold this theory. Fordyce states that there was little or nothing in the microscopic appearance of the sections in his case that would lend support to the theory of the origin of lichen from nervous disturbance, and decides that it would be more reasonable to suppose we have to do with some poison in the general circulation, which, acting on the papillary blood-vessels, determines the phenomena in question. With this conclusion I am heartily in accord.

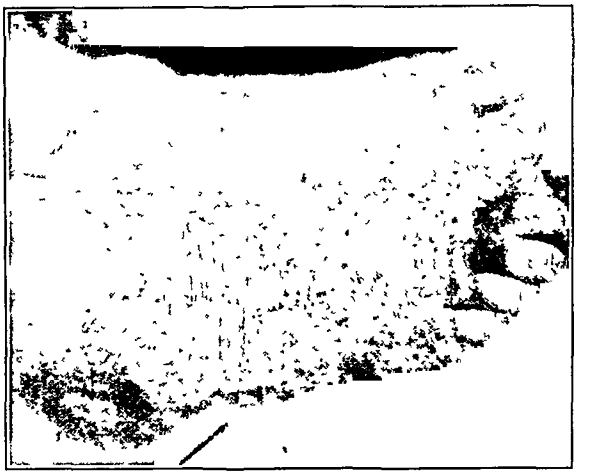

Fig 6, Case 2—Lichen planus bullosa, showing lesions on feet and ankles

While minute collections of serum in the prickle layer and in the papillary region are not unusual in lichen planus lesions, well-defined clinical examples of the vesicular and bullous types of the disease are comparatively rare. Whitfield[28] was able to find only seventeen instances of this complication reported up to 1902, and a fairly exhaustive search of the literature since discloses only five additional, of which the following case is an example:

Case 5.—A housewife, aged 42, suffering from generalized lichen planus, was referred to me, in September, 1911, by Dr. L. L Gullick, of Lamar, Colo. The eruption had been present

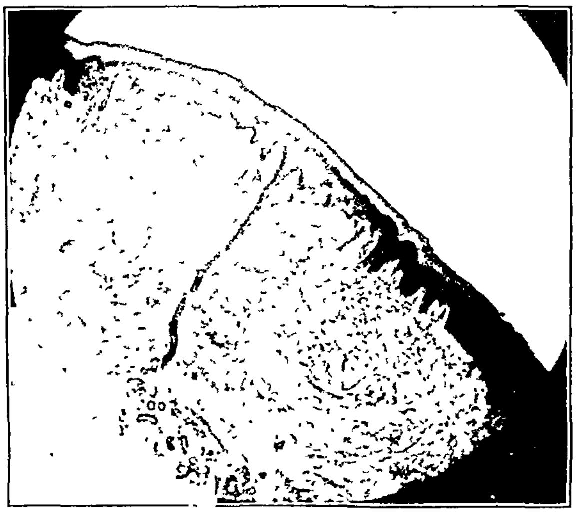

Fig 7—Lichen planus bullosa, showing subepidermal cavity traversed by coil gland duct (low magnification).

several weeks, and the patient had taken a considerable amount of arsenic. When first seen the lesions were of the usual papular type, but at the end of a week several small bullae, averaging 1 cm. in diameter, suddenly appeared on the anterior and inner aspect of the left leg. Two days later similar lesions were found on the right leg. All developed from preexisting papules, and were deep, tense and firm. Permission to perform a biopsy was refused. A blood-count made at this time showed nothing abnormal. Some of the lesions were ruptured by accident. The others disappeared in the course of a few days.

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[17] Pinkus Dermat Ztschr, 1905 p 216
[18] Morris: Brit Jour Dermat, 1907, xix, 246
[19] Hallopeau and Jamier Ann de dermat. et de syph., April, 1903, p 352
[20] Morris Brit Jour Dermat, 1901, xiii, 139
[21] Abraham Brit Jour Dermat, 1896, viii, 332
[22] West: Brit Jour Dermat, 1897, ix, 162.
[23] Walters Brit Jour Dermat, 1898, x, 169.
[24] Walker, Norman, Introduction to Dermatology, New York, William Wood & Co, 1911, p 229.
[25] Montgomery and Alderson: Lichen Planus, The Journal A. M. A., Oct. 30, 1909, p 1457.
[26] Fordyce: Jour Cutan. Dis, 1900, xvii, 56.
[27] Engman and Mook: Interstate Med Jour., June, 1909
[28] Whitfield: Brit Jour. Dermat., 1902, xiv, 161.

Recently I had an opportunity to study a second and much more severe case.

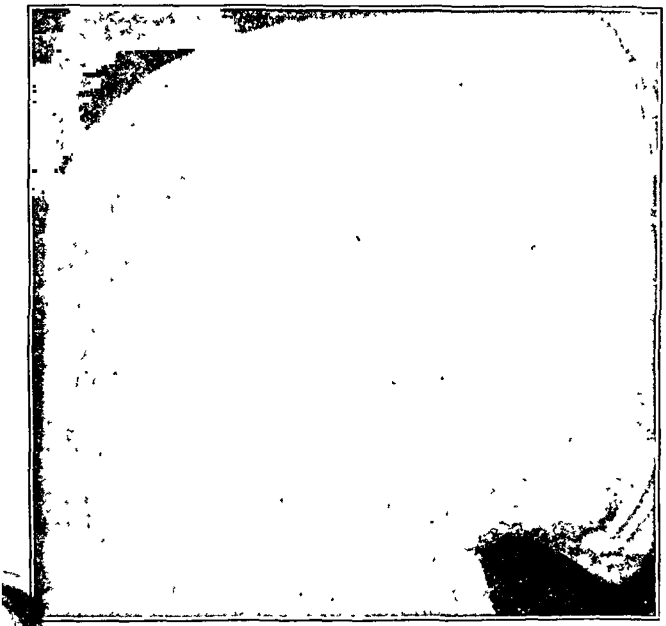

Fig. 8.—Atrophic lichen planus.

CASE 6.—A housewife, aged 63, a native and resident of Macomb, Ill., was referred to me by Dr. A. G. Koch, of this city, in May, 1913. The malady had existed since August, 1912. The usual lichen planus areas (the flexor surfaces of the forearms and the inner surfaces of the thighs) were the regions principally involved, although the neck, trunk, legs and feet also were affected. The itching at times was intense, and the patient was weak and exceedingly nervous. The first outbreak of bullae occurred in September, 1912. At that time only local applications had been employed in the treatment of the disorder. A papular lesion would be converted into a vesicular one by friction alone (a clinical observation first recorded by Allen[29] in 1902). On the other hand, vesicles frequently developed suddenly and without appreciable reason on smooth and apparently normal surfaces. Infection with staphylococci occasionally occurred, and slight scarring was not infrequent. Several times during the winter the eruption disappeared almost entirely but invariably recurred. When I first saw the case the forearms and the lower limbs were densely studded with papules, and on the wrists (Fig. 5), ankles (Fig. 6) and inner surfaces of the thighs were many, a hundred or more, tense, thick-walled bullae. These lesions were oval or circular in outline, from 0.5 to 1 cm. in diameter, and occasionally were grouped in a semicircular manner. None were hemorrhagic. Shortly after the case came under observation one of the angular papules on the left arm was excised and examined microscopically. It presented the usual histologic picture of papular lichen planus lesions. A few days later a small but well-defined vesicle, which had developed suddenly on apparently normal skin and was about eighteen hours old, was removed without anesthesia from the inner border of the right hand.

The specimen (Fig. 7) was fixed in formaldehyd solution and imbedded in celloidin. The corneous layer was condensed and thickened. The granular layer was little changed. The rete was decreased in thickness and the cells were edematous, with occasional "balloon" forms, and stained poorly. A few leukocytes and many small, deeply stained round cells lay in the interstices along the ragged under surface of the epidermis. The main collection of fluid was found between the basal layer of the epidermis and the corium. The cavity was elliptical, its long axis parallel with the surface of the skin. Extending upward through the middle of the bulla was a well-preserved coil-gland duct

Throughout the section, which was exceedingly edematous and boggy, cellular infiltration was a conspicuous feature. It was greatest, as might have been expected, in the immediate vicinity of the cavity, but in the neighborhood of the coil-gland and duct, as well as in the perivascular regions, the peculiar round, sharply stained cells so characteristic of the disease were exceedingly numerous. The elastic fibers in the upper corium had disappeared, and those in the subpapillary region were swollen and degenerated, and stained faintly and unevenly. Judging from the tinctorial reactions it is probable that the changes in the elastic tissue are secondary and not primary manifestations. Sections stained by the Gram-Weigert method showed no micro-organisms.

The cause of bullae formation in these cases is as interesting as it is little understood. Colcott Fox[30] was the first to suggest that the complication might sometimes be due to arsenic. Allen[31] believed that the outpouring of serum producing the vesicle might have some connection with a vitiated coil-gland secretion. Engman[32] holds the opinion that the development of bullae is dependent on three factors: (1) an unusual tendency to edema, (2) a very firm and non-edematous epidermis, and (3) certain degenerative changes in the elastic fibers. The occasional occurrence of suppuration, with or without subsequent ulceration, as described by G. H. Fox,[33] is largely a matter of resistance, on the part of the patient, to staphylococcic infection. When one considers the histopathology of lichen planus, it appears strange that cutaneous atrophy is so frequent a sequel

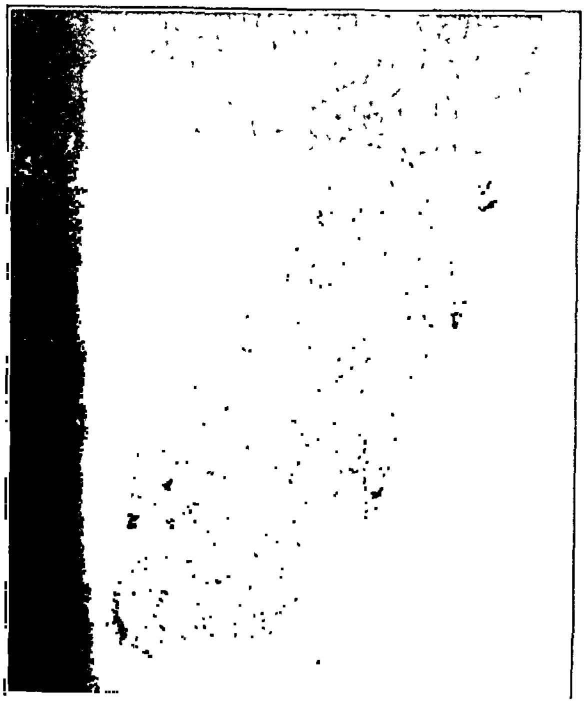

Fig. 9.—Lichen planus hypertrophicus (twenty-five years' duration).

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[29] Allen: Jour. Cutan. Dis., 1902, xx, 260.

[30] Fox, Colcott: Brit. Jour. Dermat., 1900, xii, 447.

[31] Allen: Jour. Cutan. Dis., 1902, p. 264.

[32] Engman: Jour. Cutan. Dis., 1904, p. 207.

[33] Fox, G. H.: Jour. Cutan. Dis., 1901, p. 395.

to the affection. Excluding the cases of so-called "white spot" disease, which probably are representatives of Unna's card-like scleroderma,[34] and the lichen planus atrophicus et sclerosus of Hallopeau,[35] which includes von Zumbusch's lichen albus,[36] and which, strictly speaking, does not belong in the group under discussion at all, lichen planus with subsequent atrophy is a comparatively rare condition. The following example is fairly illustrative of this type:

Case 7.—A. G., a pharmacist, married, aged 46, was referred to me by Dr. B. F. Coffin, of Kansas City, Kan., in October, 1911. The eruption was confined to the cervical and the crural regions, and consisted of dark red, angular, burnished, itchy papules which had been present several months. A few of the papules on the left side of the neck had disappeared, leaving punctate, white scars, and in some of the patches on the limbs similar changes had taken place. On the inner surface of the right knee (Fig. 8) was a sharply defined group of pin-head sized atrophic areas which the patient stated had been present about one month. Prior to that time the lesions had been papular, and the seat of paroxysmal attacks of intense itching.

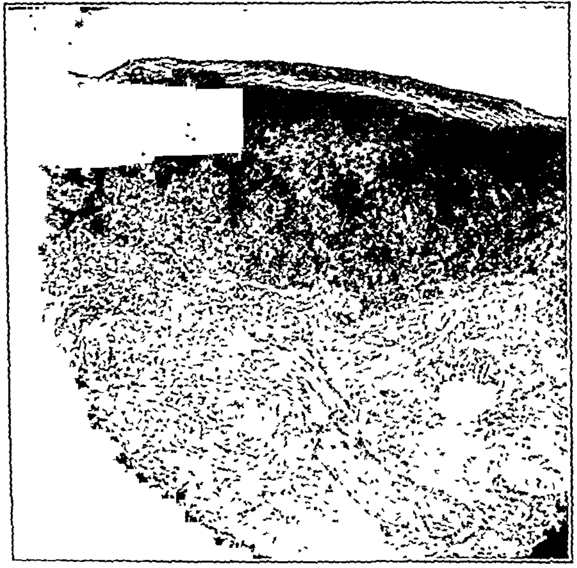

Fig. 10.—Lichen planus hypertrophicus, showing corneous hypertrophy, acanthosis, dilatation of lymphatics and cellular infiltration in the papillary region (moderate magnification).

A piece of tissue was excised from near the center of the patch for microscopic examination. The histologic appearance closely resembled Darier's description of Hallopeau's first case[35] of lichen planus sclerosus et atrophicus. The corneous layer was thickened, as was also the stratum granulosum. The prickle layer was reduced to about one-half its usual depth, and many of the cells were shrunken and misshapen. The papillae had almost entirely disappeared. There was condensation and hypertrophy of the collagen bundles in the upper corium, with wide-spread cellular infiltration in the deeper regions, particularly in the neighborhood of the blood-vessels.

Lichen planus verrucosus is sometimes only a variety of lichen planus hypertrophicus in which the papillae are enlarged and have an irregular wart-like horny covering. Warty patches may also form primarily, from the aggregation of papules developing around the hair follicles of the lower extremity, and rarely on the upper.[37] An instance of the latter type came under my care in March, 1912.

Case 8.—A woman stenographer, aged 38, was referred to me by Dr. Eugene Carbaugh, of this city. Following a generalized attack of lichen planus in January, 1912, the eruption disappeared only partially, numerous papules remaining on the forearms, thighs and legs. On the outer side of the right leg the papules evinced a predilection for the margins of the follicular openings (probably a result of friction from the skirt hem, as the patient was fond of walking), with a resultant formation of a rough, nutmeg-grater-like, brownish patch, 5 cm. wide and 10 cm. long, and consisting of a score or more of irregular, cone shaped, scaly papules, varying from 0.5 to 1 cm. in height, each pierced through the center by a single stiff hair. There was considerable infiltration, but the itching was not nearly so severe as in the other affected regions. A biopsy was not permitted

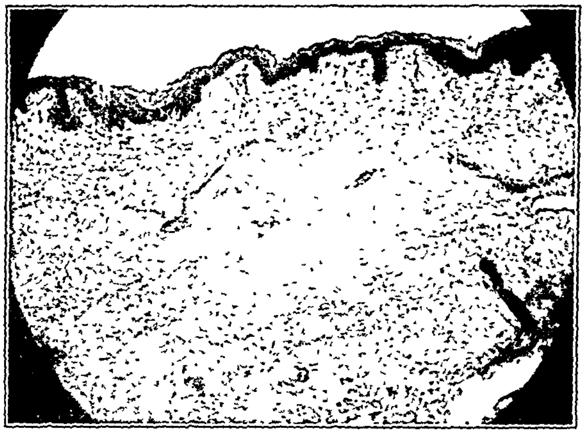

Fig. 11.—Lichen chronicus simplex (Vidal) (moderate magnification).

Fig. 12.—Prurigo nodularis.

Well-defined examples of lichen planus hypertrophicus, a type which has been carefully studied histologically by Fordyce[38] and Lieberthal[39] in this country, Max Joseph[40] in Germany, Crocker[41] in England and Brocq[42] in France, are comparatively common in the middle

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[34] Unna: Histopathology of the Diseases of the Skin, Walker's translation, New York, Macmillan & Co., 1896, p. 1103.

[35] Hallopeau: Union méd., Paris, 1887, p. 314; Ann. de dermat. et de syph., Series 2, x, 447.

[36] Von Zumbusch: Arch. f. Dermat. u. Syph., 1906, lxxxii, 339; Ormsby: Lichen Planus Sclerosis et Atrophicus, The Journal A. M. A., Sept. 10, 1910, p. 901; Hazen: An Anomalous Case of White Spot Disease, Ibid., Aug. 9, 1913, p. 393; Vignoli-Lutati: Dermat. Wchnschr., liv, 661.

[37] Crocker: Diseases of the Skin, Philadelphia 1908, i, 430.

[38] Fordyce: Jour. Cutan. Dis., 1897, p. 491.

[39] Lieberthal, David: Lichen Planus Hypertrophicus, The Journal A. M. A., Jan. 11, 1912, p 93.

[40] Joseph, Max: Arch. f. Dermat. u. Syph., January, 1897, xxxviii

[41] Crocker: Brit. Jour. Dermat., 1900, xii, 421.

[42] Brocq: Traité élémentaire de dermatologie pratique, Paris, 1907, ii, 211.

West. Within the past three years I have seen more than a dozen cases. The following instance, which is quite typical, will serve as an example:

Case 9.—A. L., a pharmacist, married, aged 67, was referred to me by Dr. C. D. Lloyd, of Leavenworth, Kansas, in October, 1912. There was an indistinct history of an intensely itchy, generalized eruption which had occurred about thirty years previously and lasted several months. For over twenty-five years the patient had suffered at intervals from a rough, dry, scaly lesion on the outer side of the right leg. The skin on other parts of the body was normal. The affected area (Fig. 9) was kidney-shaped, about 8 cm. in width by 20 cm. in length, and had changed little if at all during the past two decades. The surface of the lesion was rough, almost verrucose. The edges were oval, and "sandpapery" to the touch. The underlying tissues were infiltrated. The itching at times was so intense that considerable portions of epidermis were frequently removed by the patient's finger-nails in an effort to secure relief. A piece of skin was excised from the lower end of the lesion, no anesthetic being employed (strange to say, the old, chronic, thickened patches are comparatively insensitive to pain), and stained by the usual methods. It exhibited the characteristic histologic features (Fig. 10) of lichen planus hypertrophicus.

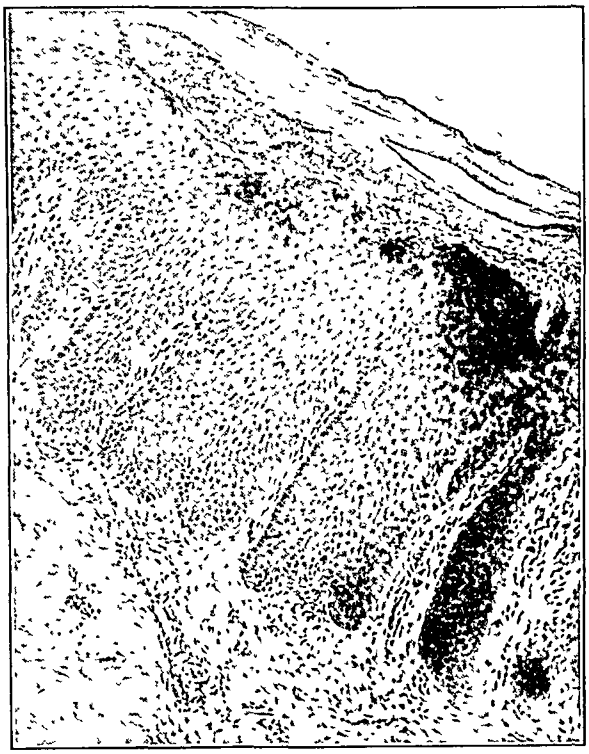

Fig. 13.—Prurigo nodularis from an early lesion, showing moderate hyperkeratosis, acanthosis, vesiculation, increase in width of interpapillary processes, and character and distribution of cellular infiltrate (moderate magnification).

The exact position occupied by lichen chronicus simplex (Vidal[43]) has long been a disputed question. Vidal would place it with the lichens, Brocq and Jacquet[44] consider it a representative of the neurodermatoses, Stelwagon[45] classes it with the eczemas, and Crocker[46] agrees with Besnier[47] that the condition is not a pathologic entity, but may represent eczema, seborrheic dermatitis or lichen planus. Judging from a clinical and histologic study of three cases of the affection, I agree with Brocq and Jacquet that the disorder is a circumscribed pruritus with subsequent lichenification. Itching without eruption is the first symptom, and the lichenification is probably a reaction which the skins of some individuals exhibit to long-continued trauma (from scratching) with ensuing subacute inflammatory involvement of the affected area.[48]

In the cases studied, the lesion was located in the left cervical region in two instances and on the inner surface of the thigh in the third. The eruption was very similar in the three, sharply defined, round or oval, dollar-sized or larger patches of subacute dermatitis, the surface being dry, slightly scaly, and marked into numberless little squares and diamonds by tiny, criss-cross wrinkles (exaggerated surface markings). Wickham's gray points and striae[49] were absent. The histologic findings in the three cases were practically identical, varying only in degree. The corneous layer was somewhat thickened (Fig. 11). The stratum granulosum had disappeared. The rete was reduced in depth, and the constituent elements stained poorly. The prickle layer was of uniform depth throughout, and the stratum corneum tightly adherent. In consequence, each interpapillary depression was marked by a corresponding groove in the epidermal covering. The papillary and subpapillary layers of the corium were sclerosed, and there was considerable collagenous degeneration, with resulting reaction to the basic dyes of the connective tissue in these regions. There was cellular infiltration in the corium, particularly in the perivascular regions, but this was not a conspicuous feature. The intruding cells were oval or elongated and as a rule lay parallel to the vessels. The elastic fibers were attenuated and lessened in number.

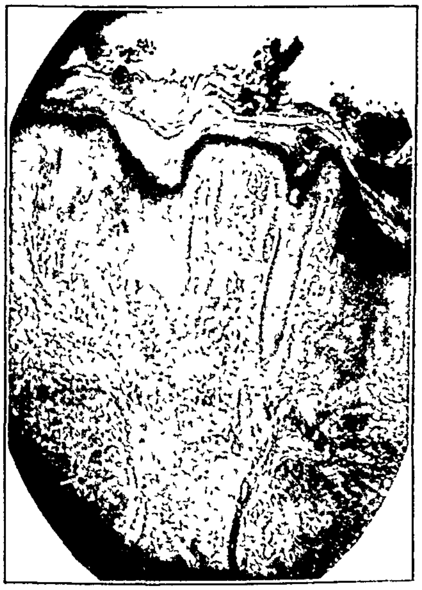

Fig. 14.—Prurigo nodularis, from an old lesion on the leg (moderate magnification).

In 1900 Brocq[50] described an exceedingly chronic, itchy, lichenoid, papular dermatosis of which he had seen five examples. Following Unna's suggestion on group classification,[51] he named the disorder "lichen obtusus corneus." The lesions were few in number and asymmetrically distributed over the body, affecting principally the extremities. They began as papules, and in the course of weeks or months developed into hard, dry, grayish or yellowish, dome-shaped nodules, about 1 cm. in height and 2 cm. or more in diameter. Histologically, the lesions bore slight resemblance to those of lichen planus, and Brocq believed that the affection might be separated from the lichen planus group and ranged with the neurodermatoses—pruritus with subsequent lichenification.

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[43] Vidal and Leloir: Compt. rend Soc. de biol., May, 1883.

[44] Brocq and Jacquet: Ann. de dermat. et de syph., February and March, 1891; Traité élémentaire de dermatologie pratique, Paris, 1907, ii, 40.

[45] Stelwagon: Diseases of the Skin, Philadelphia, W. B. Saunders Company, 1910, p. 255.

[46] Crocker: Diseases of the Skin, Philadelphia, 1908, i, 415.

[47] Besnier: Cited by Crocker, Note 46.

[48] Pusey: Principles and Practice of Dermatology, New York, 1911, p. 101.

[49] Wickham: Ann. de dermat. et de syph., June, 1895.

[50] Brocq: Pratique dermatologique, Paris, 1900, pp. 201, 213, 214, 216, 217; Traité élémentaire de dermatologie pratique, Paris, 1907, ii, 208.

[51] Unna: Histopathology of the Diseases of the Skin, Walker's translation, New York, 1896, p. 311.

More recently Hyde,[52] basing his conclusions on the study of a similar case occurring in his own practice and also on the reports of Hardaway,[53] Morrant Baker,[54] Johnston,[55] Hjelman,[56] Schamberg and Hirschler,[57] C. J. White[58] and Jackson,[59] all of whom have reported cases more or less similar to those described by Brocq, has suggested the name of prurigo nodularis for the affection, and it is probable that this designation will be generally adopted.[60]

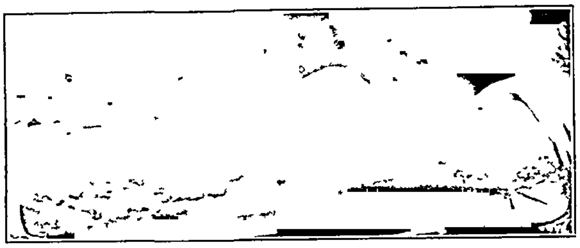

Fig. 15.—Lichen ruber moniliformis, showing arrangement of lesions on the lower limbs.

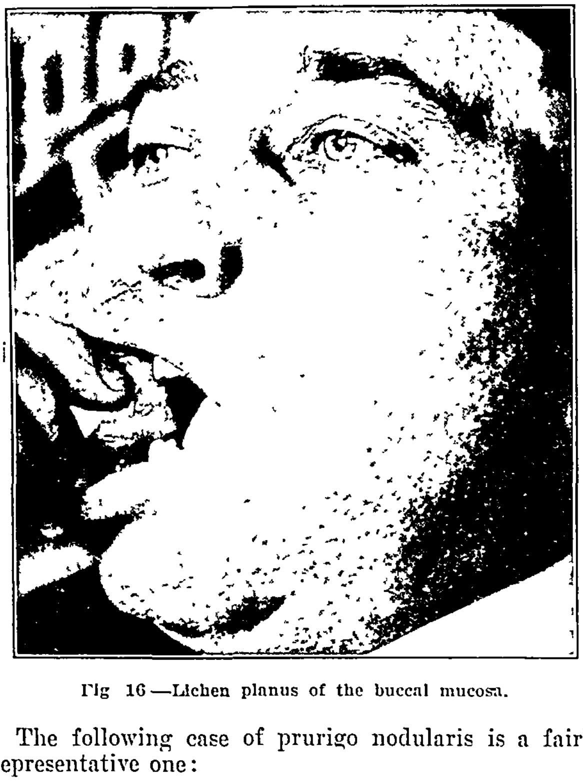

Fig 16.—Lichen planus of the buccal mucosa.

The following case of prurigo nodularis is a fairly representative one:

CASE 10.—L. H., a single woman, aged 31, was referred to me by Dr. John A. Dillon, of Larned, Kan., in November, 1912. The patient was a native of Missouri and a resident of Kansas. The personal and family histories were negative. The disease first appeared as a slight hyperemic area on the inner side of the right thigh, three years before. This was followed by the development of a papule, and later a scaly nodule. In the course of a few months similar lesions appeared on various parts of both upper and lower extremities. The eruption consisted of forty or more large, flat papules (Fig. 12) or nodules, 1 to 2 cm. in diameter, circular or oval in outline, grayish, and covered with tightly adherent scales. The itching at times was so severe as to be almost unbearable. For laboratory study five of the nodules in various stages of development were excised, cocain being employed for anesthesia. In passing, it may be stated that all of the growths recurred, reaching their original size in the course of a few weeks.

The sections of the earlier lesions resembled those from both Johnston's and Zeisler's cases (Dr. Zeisler was kind enough to loan some of his specimens for comparison), but were less keratotic than those described by C. J. White.[58] Many of the interpapillary downgrowths were quite broad (Fig. 13), the granular and spinous strata were well preserved, and in a few instances a tendency to vesiculation was noted. The prickle layer was increased in depth, and an occasional leukocyte was found lying in the intercellular spaces. The lymphatics were dilated, both papillary and subpapillary layers were edematous (Fig. 14), and there was considerable cellular infiltration throughout the corium, particularly in the vicinity of the capillaries and the nerve-trunks (a peculiarity which Welch has pointed out as occurring in Johnston's case). The coil-glands and ducts were unaffected. Keratosis and interpapillary downgrowth increased with the age and severity of the lesions, and in one of the older nodules several epithelial pearls and two giant-cells, of the foreign body type, were found, changes which have never before been described as occurring in this disorder. In sections stained[61] by Bielschowsky's method sensory nerve-endings in very considerable numbers were found in a few of the papillae.

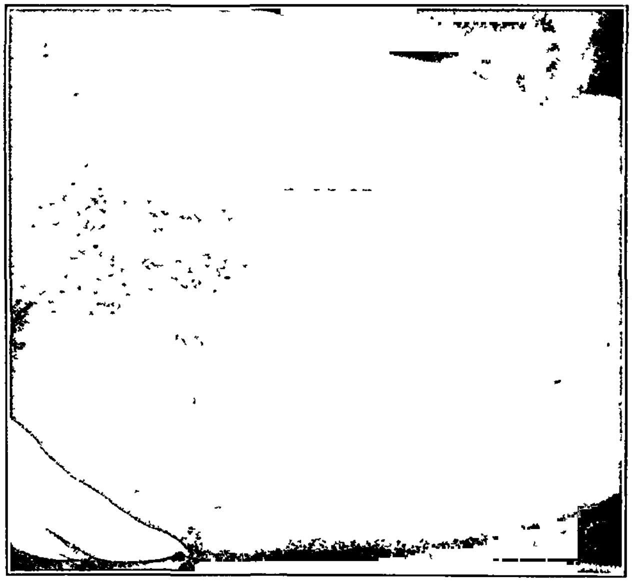

Fig. 17.—Lichen ruber moniliformis, showing scars on back and shoulders.

In 1886 Kaposi[62] reported an extraordinary example of what he believed to be lichen planus. The eruption consisted of papules, nodules and plaques, and the back, abdomen, neck and limbs were affected. The trunk, particularly in the clavicular regions, showed numerous cicatrices, the sites of former papular lesions. The most striking feature, however, was the arrangement of the eruption on the extremities. Here the nodular masses, many of which were 1 cm. or more in diameter, were disposed in rows like the beads of a necklace. Histologically, "both the primary and secondary spots were found to consist of a dense cellular and nuclear infiltration of the subpapillary layers of the corium, without any trace or structure of connective tissue. There were found only cells, many naked and polymorphous nuclei, biscuit and half-moon shaped, and many cells with the appearance of retrograde metamorphosis, distended, and undergoing cloudy swelling, a good many giant-cells, and the feathery-like outgrowth of the external root-sheath, better seen in lichen ruber than in any other chronic dermatosis, may here be well seen."[63] Kaposi named the condition "lichen ruber moniliformis." Although the Vienna dermatologist apparently did not doubt the nature of the disorder, others did. Unna, especially, criticized the diagnosis from a histologic point of view. The following case, which resembles the one described by Kaposi very closely, has been under my care during the past ten months.

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[52] Hyde: Diseases of the Skin, Philadelphia, 1909, p. 174.
[53] Hardaway: Arch. Dermat., April, 1880.
[54] Baker, Morrant: Cited by Crocker, Diseases of the Skin, 1908, i, 162.
[55] Johnston: Jour. Cutan. Dis., 1899, p. 40.
[56] Hjelman: Progrès Med., Jan. 27, 1900.
[57] Schamberg and Hirschler: Jour. Cutan. Dis., 1906, p. 151.
[58] White, C. J.: Jour. Cutan. Dis., 1907, p. 385.
[59] Jackson: Jour. Cutan. Dis., 1909, p. 39.
[60] See classical paper by Zeisler: Jour. Cutan. Dis., 1912, p. 654.
[61] Through the courtesy of Dr. Andrew L. Skoog.
[62] Kaposi: Vrtljschr. f. Dermat. u. Syph., 1886, xiii, 571.

Case 11.—W. W., a gardener, married, aged 46, was referred to me by Mr. A. N. Doerschuk, of this city. The patient was a native and a resident of Missouri. His history was negative as to cutaneous disorders and so was that of his family. Venereal infection was denied. Wassermann tests, made on two different occasions, were negative. There was a slight reaction to tuberculin by the von Pirquet method, none by injection. Both blood and urine were normal. The cutaneous disorder from which he was suffering had been present seven years, and had commenced as a generalized pruritus. This persisted for several months and was followed by an eruption of round-topped, scaly, flesh-colored papules which always remained dry but were never burnished or shiny. Itching was paroxysmal and intense. During the next two years many of the papular lesions increased in size, but a few on the chest disappeared without treatment, leaving white, hypertrophic scars. Many of the large papules on the extremities exhibited a tendency to form bead-like bands, from 3 to 15 cm. in length, parallel with the long axis of the limb. As a result of the continuous worry, discomfort and loss of sleep the patient became almost a physical wreck. On examination numerous moniliform lesions were found on the thighs (Fig. 15), and arms, and a few large, solitary nodules were scattered over the trunk and the extremities. The mucous membranes were not affected. Over the back (Fig. 17) and in the clavicular regions were a number of thick, white cicatrices. Many of the active lesions were lacerated and bloody from scratching. The face, hands and feet were free. There was present no scaliness of the scalp nor thickening of the palmar or plantar integument. The dorsal surface of the fingers and hands was normal in every way.

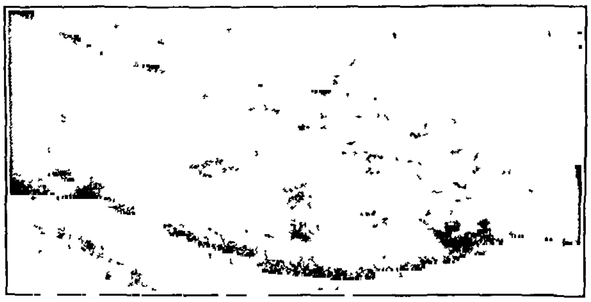
Fig. 18.—Lichen ruber moniliformis. Inner surface of left leg.

At various times nine pieces of tissue were removed for microscopic study; one from a scar, two from nodules and the rest from moniliform lesions. Sections from the cicatricial specimen exhibited, with the exception of a slight hyperkeratosis, the characteristic histologic features of scar tissue. The lesions on the back and shoulders probably were largely traumatic, caused by scratching the papules. The nodules and the moniliform lesions were similar in structure (Fig. 18). The corneous layer was greatly thickened. The stratum granulosum and the basal layer were well preserved. The interpapillary processes were longer and wider than usual, and at many points in the rete the cells were swollen and edematous.

Throughout the corium the lymphatics were dilated (Fig. 19), and both the papillary and subpapillary regions were infiltrated with round cells, leukocytes and mast-cells. The sebaceous and coil-glands were affected but little. The elastic tissue in the upper corium was sparse and degenerated. In the Gram-Weigert sections no micro-organisms could be found.

Since 1886 cases of lichen ruber moniliformis have been reported by G. H. Fox,[64] Bukovsky,[65] Rona,[66] Gunsett[67] and Hyde.[68]

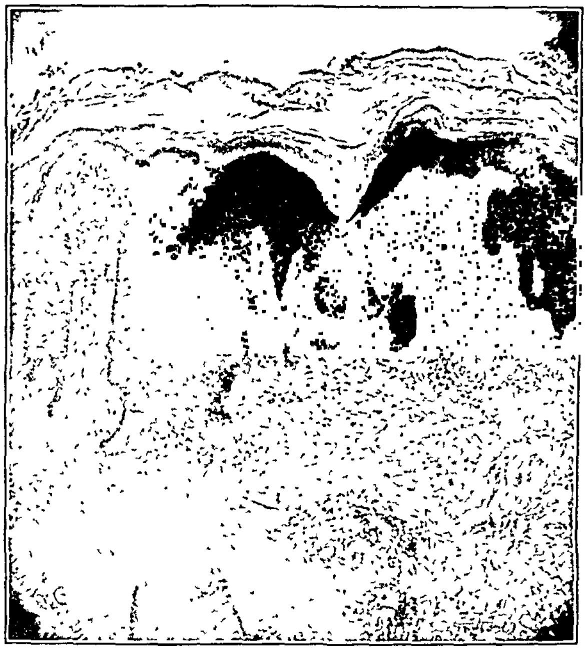
Fig. 19.—Lichen ruber moniliformis, showing hyperkeratosis, persistent granular layer, acanthosis, lymphatic dilatation, and widespread cellular infiltration throughout corium (moderate magnification).

Dr. Fox[69] considers his case an example of pityriasis rubra pilaris.[70] Although the cases presented by Bukovsky, Gunsett and Hyde (I have not access to Rona's report) were undoubtedly examples of lichen planus in which many of the lesions were arranged in a moniliform manner, to me none of them bear much if any resemblance to the case portrayed in Kaposi's colored plate, and a comparative study of the histopathology is even more disconcerting. Consequently, I must agree with Unna that Kaposi's case of "lichen ruber moniliformis" was not a case of lichen planus at all. On the other hand, a comparison of the case reported by him with those that are now regarded as examples of prurigo nodularis is very suggestive, and I consider it not unlikely that his patient and the one of mine, whose history is here recorded, were afflicted with the latter malady. Although there are some minor differences in the histologic details, the changes present are far more characteristic of prurigo nodularis than of lichen planus.

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[63] Unna's Histopathology of the Diseases of the Skin, Walker's translation, New York, 1896, p. 320.

[64] Fox, G. H: System of Genito-Urinary Diseases, Syphilis and Dermatology, New York, 1895, ii, plate x.

[65] Bukovsky: Arch f. Dermat. u Syph., July 11, 1901, p. 143.

[66] Rona: Tr. Buda-Pesth Med. Soc., 1900.

[67] Gunsett: Arch. f. Dermat. u Syph., lx, 179.

[68] Hyde: Diseases of the Skin, Philadelphia, 1909, p. 327, plate 61.

[69] Personal communication.

[70] Devergie: Traité pratique des maladies de la peau, Paris, 1857 p. 454.

TREATMENT

As Stelwagon[71] so sanely says, "the patient is to have the benefit of good plain food, hygienic living, and, when possible, outdoor life and freedom from mental worry or care." As a remedial agent, I have found mercury, as originally recommended by Liveing, immeasurably superior to arsenic. It is best given intramuscularly in the gluteal region, and in combating this disorder I prefer the soluble to the insoluble preparations, because of the greater ease with which the effects can be controlled. Either the bichlorid, in aqueous solution, or the biniodid, in water or in oil, may be employed. The amount administered varies with the patient, but as a rule the equivalent of 1/12 to 1/6 grain of the bichlorid may be injected once daily. If it is inconvenient to give the drug in this manner, the bichlorid may be given by the mouth, commencing with 1/20 grain, in a half glass of water, and gradually increasing the amount until the physiologic effect is obtained.

In cases of the hypertrophic type the mercurial medication may be alternated, about once a fortnight, with arsenic, or, better, arsenic and iron. Alkaline diuretics, with or without small amounts of bromid to lessen cutaneous irritability, are often beneficial. The salicylates I have found worse than useless, the gastric irritation to which they give rise more than counterbalancing their possible therapeutic value. Salvarsan and neosalvarsan also I have tried without benefit. The local treatment is of importance. A cooling, antipruritic ointment, which is at the same time more or less curative, may be made as follows:

℞	Phenol	♏ v-x
	Menthol	gr. v-x
	Ammoniated mercurial ointment	ʒ ii
	Zinc oxid ointment	ʒ ii
	Anhydrous wool-fat	ʒ iv
	Lime water, sufficient to saturate.	

Make into an ointment. Apply freely two or three times daily.

In addition to an ointment, it is advisable to prescribe a soothing, non-greasy application which the patient may apply at will. One of the best is ordinary calamine lotion, to which has been added from 1 to 10 per cent. of Duhring's coal tar preparation:[72]

℞	Phenol	♏ xv
	Compound tincture of coal-tar (Duhring)	ʒss-v
	Zinc oxid	
	Starch	
	Powdered calamine ... āā	ʒ v
	Glycerin	ʒ iiss
	Water, sufficient to make	℥ vi

Mix. Shake and apply freely several times daily.

If the itching is exceedingly troublesome one may resort to the following combination, for the formula of which I am indebted to my associate, Dr. Kanoky:

℞	Menthol	ʒ iss
	Thymol	ʒ ii
	Chloral hydrate	ʒ i
	Chloroform	℥ ii
	Oil of eucalyptus	℥ ii
	Oil of gaultheria	ʒ iv
	Alcohol, sufficient to make	℥ viii

Mix, shake and apply two or three times daily.

This mixture is as hot as it is efficient, but I have found it of value in many intensely pruritic conditions.

For the eradication of the thick, scaly patches in *lichen planus hypertrophicus*, *numerous methods* have been suggested, none of which are entirely satisfactory. Repeated freezing with Pusey's carbon dioxid snow often is beneficial, and Roentgen therapy in an erythema dose (one sufficient to give rise to an erythematous reaction) or less, constitutes a reliable aid. The long-continued application, under rubber or oiled silk, of *ointments* containing considerable percentages of salicylic acid and tar occasionally results in a cure.

No efficient plan of treatment for prurigo nodularis has yet been devised. For the relief of the itching I have found Bronson's oil[73] (phenol and solution potassium hydroxid, of each, 1½ dram, linseed oil 1 ounce) serviceable, although destruction of the lesions by repeated deep freezing with carbon dioxid snow is probably the best plan.

Commerce Building.

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[71] Stelwagon: Diseases of the Skin, Philadelphia, 1910, p. 209.

[72] Duhring: Am. Jour. Med. Sc., May, 1894.

[73] Bronson: Med. News, April 18, 1903.

INTRASPINOUS INJECTION OF SALVARSANIZED SERUM IN THE TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM, INCLUDING TABES AND PARESIS *

WILLIAM H. HOUGH, M.D.
WASHINGTON, D. C.

There is scarcely a disease in which the early institution of treatment is of greater importance than in syphilis of the central nervous system. Many cases are too far advanced to respond favorably to medication by the time they reach the stage of commitment to some institution. As it is not within the scope of this paper to discuss diagnosis, I wish only to emphasize the importance of applying every means at our command in all doubtful cases in order that treatment, if necessary, may be applied before degenerative nerve-tissue lesions set in. *But a few years ago the diagnosis in only about 5 per cent.* of our tertiary nervous syphilitics was properly made, as was shown by the findings on post-mortem examination, where now, with the aid of improved clinical and laboratory facilities, especially the latter, it is only in rare instances that we fail to diagnosticate the disease properly. Indeed, in certain forms of syphilis of the nervous system the condition may be accurately diagnosed by means of modern laboratory tests, months before any *clinical manifestations* appear. *In some of the institutions for the insane in Europe from 25 to 30 per cent. of the patients have been found to be suffering from syphilis. In a few of our state institutions the* annual reports even as late as 1912 do not classify any syphilitics except paretics. This can hardly be, because *they do not have such cases, but probably* is because they fail to recognize them just as was the case at the Government Hospital for the Insane a few years ago before clinical laboratory tests were applied.

Let it not be understood that I consider the diagnosis to be always easily made or that a positive diagnosis can be made *in every case even if all modern facilities* are applied. To illustrate the difficulties in this line, I wish to quote from one of our best authorities, Dr. Smith Ely Jelliffe of New York. He says:

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* From the Government Hospital for the Insane.

* Read before the Medical Society of the District of Columbia, Oct. 29, 1913.

> There is probably no field in medicine wherein similar disease pictures may arise from so many dissimilar causes as in the domain of the nervous system, nor on the other hand where a single etiological factor may give rise to so many dissimilar pictures. Hence, the necessity for detailed and minute inquiry into all of the possible symptomatology of hereditary and acquired syphilis which in all questionable cases should be supplemented by complete serological and cytological examinations.

That is, we have no symptom or group of symptoms pathognomonic of syphilis of the nervous system, although the inference from some articles is that a certain group of symptoms is practically pathognomonic. There is no doubt that syphilis of the nervous system has increased in frequency in the early stages of the disease, at least since the advent of salvarsan, and this has probably been due, in part at least, to our lack of knowledge as to what constituted an efficient treatment.

Authorities now quite well agree that the most efficient treatment for syphilis of the nervous system as in syphilis in general, in all of its many stages and manifestations is an active combined mercury-salvarsan therapy. The results obtained by ordinary methods of administrations of these remedies in the nervous manifestations occurring in the early stages of the disease have been very gratifying, whereas, in the later manifestations, treatment by ordinary methods has not been encouraging, although a number of instances of good results have been reported. By ordinary methods of administration I mean salvarsan intravenously and mercury by injection or inunction. By later manifestations of the disease, I refer especially to tabes and paresis, two diseases generally classified under the vague term "parasyphilis." I am not prepared to say that the term "parasyphilis" has no further use. It may be an appropriate term to apply, as Watson of England asserts, to primary lateral sclerosis, progressive muscular atrophy, primary optic atrophy and still other conditions mentioned by Fournier, but it is now quite clear that it does not apply to tabes and paresis. It is not my purpose to discuss here the new and important developments that have been evolved concerning the syphilis-parasyphilis question, but it seems essential in view of what follows that they should be referred to briefly. It has now been proved conclusively by Noguchi, Nichols and Graves in this country and by Marie, Levaditi, Foerster and several others in Europe, that paresis is an active syphilitic disease; that is, that living *Treponemata pallida* are present in the paretic brain, and, as Graves has shown, also in the blood, and although we have not as yet exactly the same final proof in tabes, it is quite apparent, for many reasons which may be given, that it is a similar disease affecting a different part of the central nervous system. It should be mentioned that Noguchi has found the parasite in one case of tabes.

That the organisms have not been found as a rule near the blood-vessels, but generally in the gray matter at some distance from them, and that salvarsan appears to have a greater predilection for most of the other tissues of the body than it has for nerve-tissue, as Uhlmann has shown in his studies of the neurotropic action of this chemical, may explain in part the inefficiency of salvarsan administered intravenously in the treatment of these conditions. It has been shown that salvarsan and certain other chemical substances administered intravenously, scarcely, if at all, reach the ventricular fluid, whereas such substances injected into the inferior spinal canal, that is, into the subarachnoid space, readily reach the ventricles, and therefore are thrown into the space which communicates directly with the perivascular and perineural spaces. As it is known that the blood-serum of recently treated or cured syphilitics has a marked trophic action on *Treponemata pallida*, as shown by laboratory experiments, and, as direct injection of salvarsan into the subarachnoid space even in very weak solutions was found, by animal experiments and otherwise, to be injurious, the following technic was devised by Swift and Ellis of the Rockefeller Institute for Medical Research in 1912, for bringing an effective medical agent into more direct contact with the disease-process than appeared to be possible by intravenous administration; the same principle being used which has proved to be so efficient in the treatment of some of the purulent meningitides. We should bear in mind that in the syphilitic diseases of the nervous system we are dealing with a general constitutional disease and not a disease confined to the central nervous system. In paresis, for example, histologic examination has shown that changes are present in many tissues of the body aside from nervous tissue. As will be seen presently, the intraspinous method is only an addition to the modern method of treating constitutional syphilis.

TECHNIC

A dose (generally the maximum) of salvarsan or neosalvarsan is given intravenously in the usual manner. At the end of an hour 50 to 60 c.c. of the patient's blood are drawn by means of venous puncture, clear serum is separated, diluted to 40 per cent. with normal salt solution, heated to 56 C. (132.8 F.) for half an hour, kept cool until the following day, then warmed to body temperature and injected into the subarachnoid space by means of lumbar puncture after the withdrawal of about 15 c.c. of spinal fluid, the amount of diluted serum injected being 30 c.c. (after the first few injections, if well tolerated, I usually inject 40 c.c. of a 50 per cent. serum). It must be injected slowly without much pressure. After the injection the patient is kept in bed for about twenty-four hours with the head lowered.

The number of treatments to be given depends largely on the condition of the patient, but the general rule is to give, if possible, eight or ten treatments, one every second week, then discontinue the treatments for a time, repeating them if necessary, and using as an index the four tests which are now generally known as the Wassermann reaction with the blood, the Wassermann reaction with the spinal fluid, and the cell and the protein estimations of the spinal fluid. As mentioned in the beginning, mercury and iodid, if indicated, should also be administered.

RESULTS

Those who have so far reported results from this method of treatment are the following: Swift and Ellis, Fordyce of New York, Myerson[1] of the Psychopathic Hospital, Boston; Cotton of the Trenton State Hospital; Asper of Baltimore, and myself. About sixty cases in all have been treated, and five hundred treatments have been given. Many of the cases reported have not as yet received a sufficient number of treatments, and but few have been sufficiently observed to allow a statement as to the final outcome. Many of the cases have not been the most favorable for treatment, owing to nerve-tissue degeneration. There has been marked improvement, however, in the syphilitic inflammatory process, as indicated by the four reactions, and in many patients (with tabes especially) there has been pronounced clinical improvement. The following is a very brief summary of the cases of tabes reported by the originators of this method.

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[1] Myerson, A.: Progress with the Treatment of Paresis by Salvarsanized Serum, Boston Med. and Surg. Jour., Sept. 18, 1913, p. 426. The other reports referred to were made before the New York Neurological Society, Oct. 7, 1913.

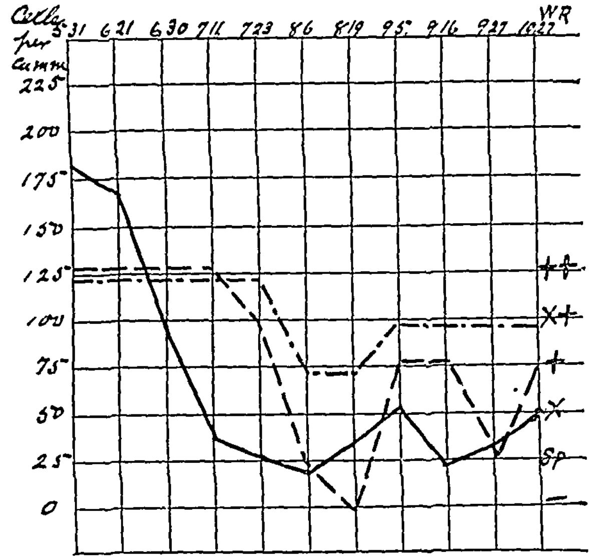

Chart 1, Case 1.—Paresis. In this and the following charts, the solid line is the curve of the cell count, the cells per cubic millimeter being indicated at left; the line of dashes, the Wassermann with blood serum; the line of dots and dashes the Wassermann with spinal fluid; the Wassermann readings being indicated at right (column headed W R): ++, complete inhibition of hemolysis; X+, very slight hemolysis; +, about 50 per cent hemolysis; X, about 25 per cent inhibition of hemolysis; sp, very slight inhibition of hemolysis; —, complete hemolysis. Dates at top show time of treatment and examinations.

Case 1.—Spinal fluid normal for over one year. Free from pain. No advance in tabetic process.

Case 2.—Spinal fluid normal for nearly one year after discontinuance of treatment. Returned to work. No advance in tabetic process.

Case 3.—Ten intraspinous treatments alone—no intravenous treatments. Most striking symptomatic improvement as well as return of spinal fluid to normal.

Case 4.—Patient received only four intraspinous treatments and would not continue. Spinal fluid returned to normal. Less marked symptomatic improvement.

Case 5.—Spinal fluid normal except for slight globulin increase.

Case 6.—Spinal fluid normal but Wassermann positive in blood.

Case 7.—Spinal fluid normal. Wassermann diminished in blood.

Case 8.—(Especially significant.) Patient took treatment followed by improvement in spinal fluid. Refused treatment for eight months and had a relapse with increase in the spinal fluid findings. Took treatment again followed by symptomatic improvement and return of fluid to normal.

Case 9.—The advantage of combined intraspinous and intravenous treatment were shown in this case. Reactions disappeared under the combined treatment and reappeared under intravenous treatment alone.[2]

So far as tabes is concerned the reports by others show about the same general results. In paresis, improvement has been reported in many instances; every worker having obtained some favorable results. The best results in paresis were reported by Cotton, Myerson and Aper. In three of nine cases treated by Cotton, the patients were sufficiently improved to be discharged from the institution, and some improvement was shown in five others. One juvenile patient, after having numerous convulsions, returned to an apparently normal condition with the exception of the pupillary reactions. In this disease it must be remembered that we are dealing with a more difficult problem than in tabes, inasmuch as the disease-process is more inaccessible and affects a more vital part of the nervous system. Here it is especially important that treatment should be instituted early in the disease. In the later cases, however, the indications are that the inflammatory syphilitic processes may be arrested. If we are able to arrest the process in paresis and tabes — and the evidence so far, in some cases, is strongly in favor of this possibility — a marked advance will have been made in the treatment of these hitherto almost invariably incurable diseases.

The most favorable results may be obtained, as naturally would be expected, in the nervous manifestations which occur in the earlier stage of syphilis.

My own experience consists of thirty-six treatments administered to six patients. As two of the patients received but one treatment each, I shall report but four cases.

Case 1.—Patient, aged 37. Periodic drunkard. History of syphilis. Antisyphilitic treatment just before admission. Pupils contracted and with slight reaction to light. Slight Romberg. Patellar reflexes abolished. Delusions of grandeur. No insight into his condition. Noisy and disturbed a great deal of the time. The four reactions positive. Ten treatments.

The patient now has gained 27 pounds, is quiet and orderly, has gained insight into his condition, is but slightly euphoric, and his delusions are not prominent. Pupillary and patellar reflexes are unchanged.

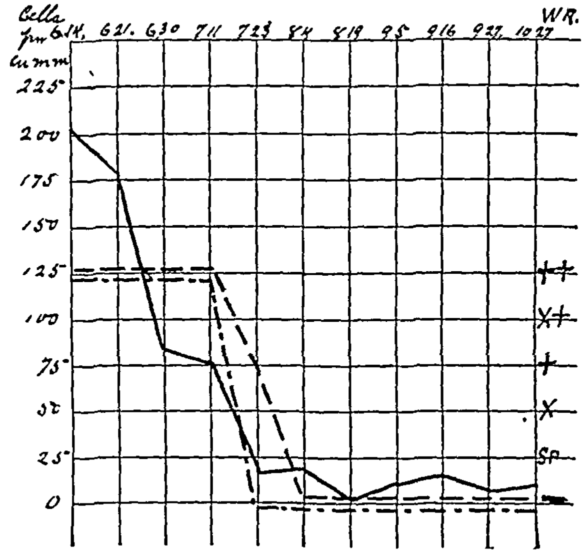

Chart 2, Case 2.—Paresis.

Case 2.—Patient, aged 38. No history of syphilis. Pupils react sluggishly to light. Patellar reflexes exaggerated. No incoordination. Numerous delusions of grandeur. At times destructive, noisy and excitable, frequently has to be restrained. The four reactions positive. Ten treatments.

The general physical condition of the patient has improved. He is now quiet and orderly and the delusional state, though still apparent, is not quite so prominent as on admission.

Case 3.—Patient, aged 32. No history of syphilis obtainable. History of gonorrhea and excessive use of alcohol. Onset of mental symptoms sudden about one week before admission. Pupillary anomalies, incoordination, marked tremors of the facial muscles, tongue and extended fingers. Deep reflexes markedly exaggerated. Manifold delusions chiefly of a disagreeable and depressing character. Patient excited, noisy and disturbed the greater part of the time. The four reactions positive. Nine treatments.

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[2] For detailed report of these cases see Swift H F and Ellis A W M: The Treatment of Syphilitic Affections of the Central Nervous System with Especial Reference to the Use of Intraspinous Injections, Arch Int Med, Sept 15, 1913, p 331.

There is practically no change in the patient's condition except that his general physical condition has improved. He has gained in weight.

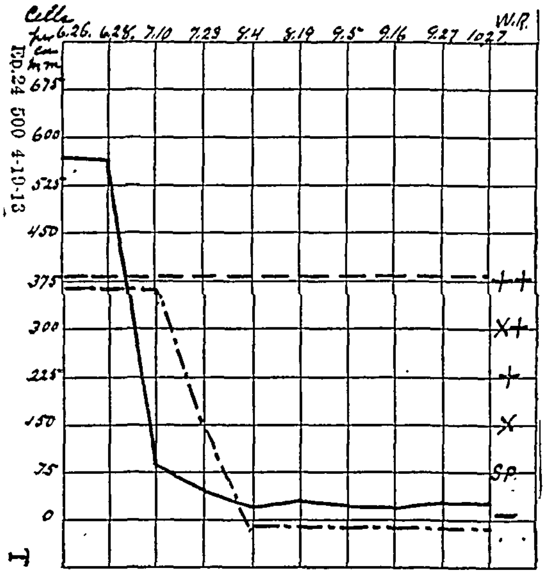

Chart 3, Case 3.—Paresis.

Case 4.—Patient, aged 20. Family history unimportant. The patient, at 16, enlisted in the U. S. Navy. After having been confined in a naval prison for several months the patient was returned to duty on the U. S. S. *Maine*, where he remained for about two weeks when a chancre on the frenum developed and he was sent to the Philadelphia Naval Hospital for treatment, July 18, 1912. The following notes were taken from the naval health record: July 22, 1912: Wassermann reaction strongly positive; 0.6 gm. salvarsan given intravenously. July 25: 0.6 gm. salvarsan given intravenously. August 20: Patient complained of pain in his right ear. This continued until August 26, when a facial paralysis of the right side developed. August 31: Condition unchanged. September 10: Potassium iodid and mercuric chlorid given by mouth. September 25: Facial paralysis much improved. September 30: Complaint of severe headache for two or three days. October 1: Partial paralysis of the left arm and leg and right side of the face, which became complete the next day. Patient vomited frequently, was in a semistupor, could not articulate, swallowed with difficulty, had some lateral nystagmus the left eye deviating to the left and a temperature of 101.3 F. October 6: Temperature normal. Given mercurial inunctions and bichlorid, one-fifth grain intramuscularly. Understands what is said to him but cannot reply. October 8: Temperature 101 during night; 1,500 c.c. urine passed in twenty-four hours containing trace of albumin. October 11: Improving slowly; writes his wants; moves his left leg slightly. October 19: Given 6.4 gm. of salvarsan intramuscularly; mercury and iodid continued. November 1: Patient moves left leg at will but strength is impaired; can move left arm slightly. November 5: Patient improved in strength and motion of paralyzed side; walks with the aid of crutches. December 15: Patient able to walk short distances without the crutches, but drags the left foot. December 31: Generally improved. January 5: Complaint of headache; temperature 100; given mercury by inunction. January 20: Occasional attacks of vomiting; complaint of failing eyesight. January 30: Complains a great deal of headache. February 28: Complains of headache; given mercury and iodid by mouth in place of inunctions. March 20: General condition unchanged. April 1: Passes urine and feces involuntarily; is sullen and seems to try to cause trouble. April 25: Mental condition somewhat improved; tries to walk occasionally. May 10: Has hysterical outbursts and is impaired mentally; when questioned he laughs in a silly manner and does not seem to comprehend what is said to him. June 9: Surveyed by a board of medical survey and recommended for transfer to the government hospital for the insane as having cerebral syphilis. July 12: Patient transferred to the government hospital for the insane.

On admission patient was rather poorly nourished. There was a spastic paralysis of the left arm, paralysis of the left leg with considerable tremor and partial paralysis of the right side of the face. The deep reflexes on the right side of the body were about normal, on the left side exaggerated. There was ankle-clonus and typical Babinski on the left side. The tongue showed a fine tremor. Patient was unable to stand and showed considerable muscular incoordination. He passed urine involuntarily. The pupils responded sluggishly to light and accommodation and the movements of the right eye were somewhat impaired. The patient was oriented as to time, person and place; some lack of insight into his condition; no hallucinations; no delusions; considerable slurring and stammering over test words and considerable emotional instability. Memory was fairly good. Wassermann reaction with the blood-serum was completely positive. There was cerebrospinal pleocytosis with increase of protein. Wassermann reaction with the spinal fluid was negative.

This patient with typical nervous relapse following the use of salvarsan has received since admission into this hospital, six intravenous injections of neosalvarsan each of 0.9 gm. and five intraspinous injections, also mercury and iodid. There has been pronounced clinical improvement as well as improvement in the blood and spinal-fluid findings.

It is too early to predict what the outcome will be in the cases here reported, but we see pronounced improvement in the four reactions in all, and symptomatic improvement in three. We should bear in mind that improvement and remissions in paresis are not uncommon, but when we see at the same time improvement in the four reactions it appears to me to be of considerable significance. I may add, in connection with the clinicopathologic tests, that in the study of the cerebrospinal fluid in 240 cases of paresis, some of which have received various kinds of treatment and in many of which repeated punctures were made, I have never seen

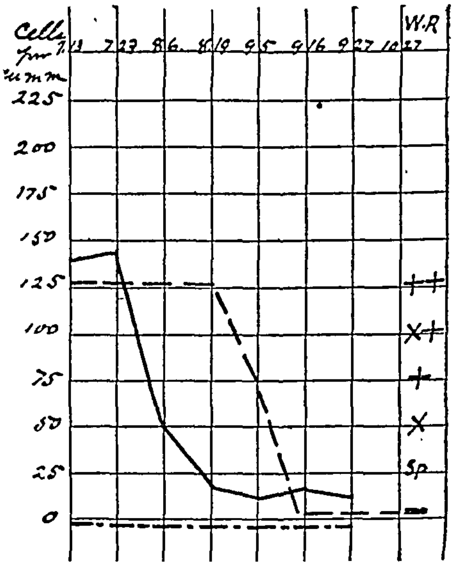

Chart 4, Case 4.—Cerebral syphilis.

such pronounced improvement in the reactions as occurred under the intraspinous injections.[3]

On the charts I have endeavored to show three of the four reactions, namely, the cell content of the spinal fluid, the Wassermann reaction in the spinal fluid and the Wassermann reaction in the blood. The charts do not show the protein-content, but this generally corresponds fairly closely to the cell-content, although it does not diminish quite as rapidly as the cell-content, and may be distinctly increased when the cell-content is normal.

I quote the following from the last article on the subject by Swift and Ellis:

> Each case presents a slightly different problem, and must be considered individually. Some respond much more rapidly than others, but the object in all should be to obtain a persistently normal cerebrospinal fluid. Of course, we cannot state with certainty that a normal cerebrospinal fluid assures that there will be no further progress of the degenerative process. All that we can say is as long as the cerebrospinal fluid gives evidence of a specific pathologic process in the central nervous system, and we have specific therapeutic measures which will remove that evidence, these measures should be applied. Only when the fluid becomes normal are we justified in discontinuing the treatment, and observations of the fluid should be continued so that at the first evidence of relapse treatment may be resumed. The method of intraspinous injection is not presented as a substitute for any of the accepted forms of treatment, but as an aid in attacking these severe infections. We feel that there is definite evidence that this form of treatment has a curative action on the syphilitic process, and that, therefore, its combination with intensive intravenous treatment is indicated where specially intensive treatment is required, as in rapidly advancing tabes or paresis, or where the disease has resisted other forms of treatment.

The opinion of those (all of the above-mentioned investigators, with the exception of Myerson) who entered into the discussion of this subject before the New York Neurological Society a few weeks ago was that we have in the intraspinous injections of salvarsanized serum the most promising treatment for tabes and paresis that has yet been recommended.

The Toronto.

THE AUTOSEROSALVARSAN TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM *

G. W. McCASKEY, A.M., M.D.
Professor of Medicine, Indiana University School of Medicine
FORT WAYNE, IND.

The recent demonstration of the fact that tabes and general paralysis are not parasyphilitic but actual syphilitic diseases—the lesions containing the *Spirochaeta pallida* as do other syphilitic lesions—has placed these diseases in the same group with the ordinary types of cerebrospinal syphilis, at least so far as etiology and therapeutics are concerned. There are, of course, certain well-defined pathologic variations dependent on the site, mode and avenue of attack of the chronic infection. The encephalitis of paresis, the predominating system lesion of the cord in tabes, and the characteristically bizarre pathology with the equally bizarre syndrome of the remaining groups of cases of cerebrospinal syphilis are perfectly well known, and we now understand certain familiar facts, as the frequent termination of tabes in paresis, and the common occurrence of intermediate cases, the classification of which was decidedly perplexing. They no longer need classification further than that implied in the scientific recognition of the accidental variations in the pathology produced by the luetic infection, together, of course, with the resulting variations in symptomatology.

Having established the syphilitic nature of tabes and paresis, we are still confronted with the clinical fact that these diseases, together with many of the other types of cerebrospinal syphilis, have until the present proved intractable to antisyphilitic treatment. At least one important reason for this has apparently been found in the inaccessibility of the subarachnoid lymph-space, including the general ventricular cavity. In spite of the fact that the terminal pial vascular network touches the boundaries of this space at every point, the main portal of entry appears to be through the chorioid plexus, probably for conservative reasons, perhaps to protect the delicate nervous structure which surrounds it from deleterious substances. If, however, as sometimes happens, an infection such as of the meningococcus or *Spirochaeta pallida* becomes entrenched in this area, the same mechanism which prevents the entrance of serum albumin, sugar, urea, ammonia, etc., which normally exist in the blood but do not enter the cerebrospinal fluid, also prevents the entrance of salvarsan, which would act as a perfectly effective trypanosomicide and rid the tissues of the spirochetes if it could only come in contact with them. This appears to be the main problem, although it will undoubtedly prove to be true in the types of cases under discussion—as Flexner has pointed out in a discussion of local infections in general—that there are more or less circumscribed areas with poor vascularization, which are difficult to reach even when attacked from both sides—that is, through the blood-stream by the intravenous method, and through the lymph-stream by the intraspinous method.

The credit of conceiving and perfecting an apparently safe and effective method of introducing a trypanosomicide into the subarachnoid lymph-space—one of the brilliant achievements of recent years—belongs to Swift and Ellis of the Rockefeller Institute. The idea was not entirely new, as the obvious advantage of introducing antisyphilitic remedies directly into the cerebrospinal fluid had occurred to others. Wechselmann and Marinesco[1] had independently injected small doses of salvarsan and neosalvarsan by lumbar puncture, but Swift and Ellis clearly showed by experiment on monkeys that it was too dangerous. Marinesco had even made intraspinal injection in syphilitics of serum from other patients who had been treated intravenously with salvarsan. This was not followed up by a perfected technic, although it involves the same principles, and under what could be called heteroserotherapy might still under certain conditions be the method of choice—almost of necessity.

TECHNIC

An intravenous injection of from 0.3 to 0.9 gm. of neosalvarsan is given, and one hour later about $1\frac{1}{2}$ ounces of blood withdrawn, allowed to stand until the serum separates, centrifugalized if necessary, and 12 c.c. of serum pipetted off. This is heated to 56 C. (132.8 F.) for thirty minutes, which activates the salvarsan, possibly by inactivating something else loosely combined with it, mixed with 18 c.c. of sterile normal salt solution, and injected by lumbar puncture after removing a few cubic centimeters of spinal fluid. In regard to the removal of spinal fluid I am inclined to think that a moderate increase of intraspinal pressure, if slowly and cautiously produced, hastens the diffusion of the neosalvarsan through the surrounding nerve structures, and that not much spinal fluid should, or at least needs to be, removed unless the pressure is quite high at the outset as determined by the flow. In a number of cases the injection has exceeded the fluid withdrawn by 20 c.c., and no symptoms were produced by the increased volume and presumably increased pressure.

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[3] For a more detailed account of my results with the examination of the cerebrospinal fluid and Wassermann reaction see Rev. Neurol. and Psychiat., Edinb., August, 1913, p. 411.

* A Discussion Before the Twelfth District Medical Society, Fort Wayne, Ind., Nov. 5, 1913.

[1] Wechselmann and Marinesco: Quoted by Swift and Ellis. The Treatment of Syphilitic Affections of the Central Nervous System, with Especial Reference to the Use of Intraspinous Injections, Arch. Int. Med., September, 1913, p. 331.

My experience so far has been limited to seven cases. It is too soon to make a final report of these cases, but in view of the great importance of the subject, it has seemed to me worth while to state my conclusions, with brief outlines of the cases, hoping that it may encourage other clinicians to carry out what I believe to be by far the most important addition ever made to the therapeutics of cerebrospinal syphilis. Whether it will entirely annihilate the spirochetes, or whether there may still remain inaccessible foci of infection which will make recrudescence possible after the lapse of time, the future alone can determine. We are at least attacking the disease from a new angle, without hazard to the patient, and so far as I am concerned, I shall continue to advise autoserotherapy in all suitable cases of cerebrospinal syphilis, whatever form they may assume — paretic, tabetic, etc. — in the firm belief that many hitherto incurable cases may at least be relatively cured, while the cases which have heretofore been symptomatically cured, with subsequent recrudescence from latent foci, will be safer from relapse, if indeed it cannot be entirely prevented.

One of my cases (Case 3) under treatment illustrates, in what seems to me to be a very conclusive manner, the difficulty of reaching the infection of the cerebrospinal axis by the intravenous route. The patient had had the diagnosis of cerebrospinal syphilis confirmed two years ago at the Ann Arbor clinic. Since that time he had taken about twelve intravenous injections of salvarsan and later neosalvarsan. He had improved somewhat, but the nervous and mental symptoms had not improved and were possibly somewhat worse. He came under observation Oct. 15, 1913, at which time we found a negative Wassermann in the blood and a positive Wassermann in the spinal fluid. The case proves as clearly as anything can the difficulty of reaching the lymph-spaces of the cerebrospinal system, for after the serologic evidence of lues in the blood had been destroyed by repeated intravenous treatment extending over a long period of time, it was distinctly present in the spinal fluid. It should be stated, however, that the condition of the spinal fluid had materially improved under the intravenous treatment. At that time, as kindly reported to me by Dr. A. M. Barrett of the University of Michigan, there were 348 cells per cubic millimeter with a great increase in globulin, while at the time of my examination there were only twenty cells per cubic millimeter, but globulin was still present in excess, and, as stated above, the spinal fluid Wassermann was positive.

The case is mentioned here to illustrate the relative ineffectiveness of the intravenous method of treatment in some cases of cerebrospinal syphilis, and to uphold the view that salvarsan in the blood does not gain free access to the cerebrospinal fluid.

In another case of acute syphilitic insanity (Case 4) on a background of typical tabes—spinal myosis, loss of knee-jerk, Romberg symptom, paralysis of bladder, etc. — a positive Wassermann was found in both blood and spinal fluid. A full dose (0.9 gm.) of neosalvarsan was given intravenously, serum obtained as usual, and 12 c.c. in 40 per cent. solution given intraspinally.

In twenty-four hours the patient's general symptoms, especially the insanity, were greatly aggravated. He had to be held in bed one entire night, the type of insanity before this having been mild. This lasted thirty-six hours when the exacerbation disappeared, and since that time the psychosis has steadily improved. This case, with two or three others, has seemed to me to indicate that the destruction of myriads of spirochetes by the neosalvarsan had liberated excessive quantities of endogenous toxins, which temporarily aggravated the symptoms. Possibly, however, it was due to a direct action of the neosalvarsan on the tissues. Smaller initial doses should undoubtedly be given in such cases, and it is probably better in most cases to start with from 0.3 to 0.45 gm. of neosalvarsan.

The reaction following the intraspinal injection has rarely been pronounced. Occasionally a slight chill occurred, and sometimes pain in the back and limbs has lasted from a few hours to two or three days. In one such case the motor weakness of the lower extremities seemed to be somewhat greater for several days following the intraspinal injections. Improvement then began and has continued since.

I should like to mention here a case of petit mal (Case 7) with from five to ten attacks daily, beginning at about 35 years of age. Knowing that epilepsy at this late period might be luetic, I made a Wassermann and found it positive. Two intraspinal treatments were given with marked improvement (as recorded in the appended history). I made a Wassermann in the only other case of epilepsy developing late in life under immediate observation, but it was negative. I mention the case to suggest that in cases of epilepsy developing at 35 or 40, a Wassermann should be made as a routine, and if positive the autoserosalvarsan treatment should be tried intraspinally.

In conclusion, I only wish to say for the present that after giving twenty intraspinal injections of neosalvarsanized serum to seven patients over a period of about three months, I have seen in some cases remarkable improvement, and believe the method in careful hands, with perfect asepsis, and cautious dosage, to be devoid of danger, and to offer a new and entirely rational method of attack on the localized infection in cases of cerebrospinal syphilis.

Brief histories of the cases treated by this method, and notes of their progress up to date, are given below:

Case 1 (No. 746).—Man, aged 47, married, whose family and past histories are not remarkable, who denies venereal diseases, and whose wife has had no pregnancies, for 3 years has been nervous, has had marked tremor, and becomes confused easily. He has had four attacks in which speech was impaired and mentality markedly dulled. He gradually improved after each attack, but the general condition grew progressively worse until he gave up work ten months before examination. The patient had profuse watery discharge from the nose for some time, relieved by cauterization.

Physical examination showed a man fairly well developed and very well nourished, distinctly apathetic. Speech was slow and uncertain, and mentality obviously dull. There were marked coarse, convulsive movements of extremities and tremor in hands. Right pupil was twice the size of left; both were regular, and responded to light and distance. Knee-jerks were present, the right increased. Elbow-jerk was present on right side only. There was no clonus or Babinski, and no Romberg. Physical examination was otherwise negative. Wassermann of both blood and spinal fluid was positive.

Patient has had 4.5 gm. of neosalvarsan intravenously in five injections within three months and 60 c.c. of his own salvarsanized serum according to the technic previously outlined. Twice he has had mild reactions consisting of an exaggeration of the tremor and convulsive movements. There has been no other reaction. He has improved markedly so that he returned to work after the third injection and considers himself well. His wife notices, however, occasional evidences of mental impairment.

Case 2 (No. 881).—Woman, aged 55, married, with nothing remarkable in her family or past history, for several years has suffered with varied "nervous manifestations"—diplopia intermittent in character, numbness and paresthesias of right side, transient right-sided hemiplegia, subsequent motor weakness, occipital headaches, and finally two hard tumors of the skull. Wassermann one year before had been negative, probably because of mercurial treatment.

Physical examination showed marked internal strabismus of right eye, motor and sensory impairment of right side and two firm tumors several centimeters in diameter on skull in frontal and temporal regions of right side. Wassermann on blood was repeated and found positive.

Patient received three intravenous injections of 0.6, 0.9 and 0.9 gm., respectively, of neosalvarsan, the second being followed by an intraspinal injection of 12 c.c. of her salvarsanized serum. Marked febrile reaction with chills followed the intravenous injections and severe backache, with transient increase of motor weakness, and headache followed the intraspinal injection.

Nodules on skull have disappeared, vision is greatly improved, and sensory and motor paresis are much less marked.

Case 3 (No. 939).—Man, aged 44, married, childless, with family and past histories not remarkable, denying venereal disease, for two and a half years has been troubled by twitching of cheeks and lips, "stoppage of talk," loss of memory, and impaired locomotion. Speech is incoherent and disconnected. Patient has grandiose manner and mild delusions of same type. Diagnosis of lues had been made and patient had received from twelve to fourteen injections of salvarsan and neosalvarsan intravenously with some improvement.

Physical examination revealed nothing remarkable beyond what has been noted in the history except increased knee-jerks. Wassermann in the blood was negative and in the spinal fluid positive.

Patient has received 3.6 gm. of neosalvarsan intravenously in two months and 45 c.c. of his own salvarsanized serum intraspinally in four treatments without any reaction. His condition is greatly improved, the mental symptoms alone persisting though in lessened degree.

Case 4 (No. 963).—Man, aged 39, married, childless, with family history and past history not remarkable, who had gonorrhea but denied luetic infection, for two years had been known to have tabes and gonorrheal prostatitis, but had been able to attend to his business. Three weeks before, he began to show signs of mental disturbance—was distinctly melancholy and apathetic. Two weeks before, after a hard day's work, he developed a mild mania with fixed delusions. There was incontinence of urine.

Physical examination revealed the usual signs of tabes. Wassermann was positive in both blood and spinal fluid.

Patient was given 2.7 gm. of neosalvarsan intravenously and 28 c.c. of his own salvarsanized serum intraspinally in three treatments within a period of seven weeks. Marked psychic reaction followed the first injection but no other reaction was observed.

Patient's condition has improved in every way. Recently he had the best days in two years, but is still irritational at times. Locomotion is very good.

Case 5 (No. 949).—Man, aged 26, married, childless, with family history unimportant, admitting gonorrhea seven years ago and syphilis five years ago, suffered right hemiplegia six months ago. This improved for a time under treatment, but is now growing worse. Physical examination reveals only the hemiplegia. Wassermann of blood and spinal fluid is positive.

Patient received 2.4 gm. of neosalvarsan intravenously in three injections and 24 c.c. of his own salvarsanized serum in two intraspinal injections following the first two intravenous treatments. There was marked reaction causing increase of motor impairment of right side and some mental confusion after the intraspinal injections.

Patient has gained markedly in weight, speech has improved and locomotion has somewhat improved. He feels much better than at any time in last six months. He has acquired a fresh gonorrhea, or is suffering from a recrudescence of his former infection.

Case 6 (No. 961).—Woman, aged 58, married, mother of eleven children, with family and past histories not remarkable, for last eight months has noticed "numbness" of hands and feet, followed by marked loss of strength. Vision and hearing are impaired, dizziness, headache and nausea are present at times. Coordination is poor. She cannot walk.

Physical examination shows normal pupils, moderate Romberg, paresthesias but no anesthesias of arms and legs, knee-jerks present and equal, and no clonus or Babinski. Wassermann positive in blood and negative in spinal fluid. (Only 0.1 c.c. was used.) Urinalysis reveals a chronic nephritis.

Patient received 0.8 gm. of neosalvarsan intravenously and 24 c.c. of serum intraspinally in two injections. Mild reaction consisting of backache and nausea followed the first injection. Marked nausea of a week's duration but only mild backache followed the second.

Patient's sensory impairment has but slightly improved. Locomotion is much less difficult.

Case 7 (No. 63).—Man, aged 38, unmarried, denying any knowledge of syphilitic infection, for two years has had minor epileptic seizures gradually increasing in number up to from eight to twelve daily.

Physical examination revealed nothing remarkable. Patient had improved on bromids, but only for comparatively short periods. Wassermann of blood proved positive, of spinal fluid (0.1 c.c.) negative.

Patient received 1.8 gm. of neosalvarsan intravenously and 24 c.c. of salvarsanized serum intraspinally in two treatments. Temperature rose to 101.3 following first injection and patient complained of severe backache and occipital headache. Reaction following second injection was of same character but much less intense.

Number of seizures has been diminished to one slight attack daily with several successive days of complete freedom at times. General condition has distinctly improved. Patient volunteers statement that he feels better than for years.

PRESENT-DAY DANGER OF ROENTGEN-RAY BURNS AND HOW TO PREVENT THEM

G. E. PFAHLER, M.D.
PHILADELPHIA

The serious Roentgen burns that were produced during the early years of roentgenology made both patients and physicians cautious, and during the last eight or ten years the work has been done almost exclusively by specialists who have devoted their entire time and attention to roentgenology, and who have learned how to avoid burns, and yet to produce good results.

With rare exceptions during the past ten years, we have heard of no burns of patients, and the only thing that has made us remember any danger of Roentgen rays is the announcement of the death, from time to time, of some roentgenologist who had damaged himself early in the work.

The facts that these Roentgen ulcers in patients were produced during the early years of roentgenology, and that the damage done to roentgenologists occurred during these early years, have led the general profession to believe that danger in roentgenology has been eliminated, and that to-day every one and any one can use the Roentgen rays with safety. This is true only so far as those using the Roentgen rays have acquainted themselves with the dangers and learned to avoid them. A razor is a dangerous instrument in the hands of a child, but perfectly safe in the hands of those skilled in its use.

The marvelous advances that have been made in roentgenology, and the important field that it occupies to-day in diagnosis and treatment, have led to the exploitation of apparatus among the general profession by manufacturers who for the most part have in mind only sales, and therefore leave the physician under the impression that all he needs is the apparatus to do good work, and do it safely.

It is to be feared that the combination of enthusiasm for the use of the Roentgen rays and the false sense of safety will lead to disastrous results in the hands of untrained and unguarded physicians. Therefore it seems timely that a note of warning be sounded, for already there have come to my attention a number of serious Roentgen-ray burns produced recently by unskilled men, during single examinations. If this continues, much harm will be done to patients and physicians alike, and, secondarily, the specialty of roentgenology will be injured and its progress halted. It is a fact to-day that the Roentgen rays are absolutely harmless when properly used; that examinations can be made without the slightest injury to the patient, and that a roentgenologist probably can protect himself completely against its continuous and insidious evil influence. It is also a fact that the Roentgen rays as such are many times more dangerous to-day than they were ten years ago, because many times more powerful, and because the apparatus to-day is capable of a much larger output in a given time. Ten years ago, examinations were made with a current of from 1 to 5 milliamperes. To-day practically all examinations are made with from 10 to 100 milliamperes. Therefore it is easily seen that rays, as such, are ten times more dangerous to-day than they were ten years ago. They are made safe only because there is perhaps more than ten times as much knowledge concerning their use and dangers. This knowledge is at hand, is the property of the profession and is open to those who are willing to take the trouble to enlighten themselves. Besides the actual statement of facts such as can be found in literature, a certain amount of skill is needed, which can only be obtained by actual training or experience.

THE CAUSE OF ROENTGEN-RAY BURNS

The effect of the Roentgen rays on the tissues of the body depends on the quantity of rays absorbed, and the degree of sensibility of the tissues affected. The rays that pass through a tissue have practically no effect on it. Therefore it is the rays which are absorbed and do not pass through, which produce any beneficial or evil effect on the tissue. Therefore, the first essential is to be able to produce and judge the quality of the rays that will pass through a tissue. Most burns have been produced by the physician who lacks the ability to judge the penetration of the rays needed. As a result he is apt to use rays that are practically all absorbed in the superficial soft tissue, producing varying degrees of burns, depending on the quantity of rays. If he is using one of the modern powerful transformers, he can in a very short time produce enough rays to damage the soft tissues. For instance, one of the worst burns I have ever seen was produced by a physician while using one of our modern equipments, in an attempt to make an examination for stone in the kidney. His exposure was only two and a half minutes, and in this time he obtained no shadows on his plate. When the patient was seen five months after this injury, there remained an ulcer about 5 inches in diameter, which was excruciatingly painful and was showing no tendency to heal. In the hands of a skilful operator, with the same apparatus, a good picture of the kidney would have been obtained in from three to five seconds, and with absolutely no harm.

The damaging effects on patients and operators have been avoided in great part also during the past ten years, by the elimination of roentgenoscopic work.

The remarkable advances that have been made in the diagnosis of gastro-intestinal conditions by means of roentgenoscopy during the past five years have created a wave of enthusiasm for this class of work, and has led many into the use of the Roentgen rays for this purpose even though they do not take the trouble to make roentgenograms. This class of physicians is likewise apt not to take the trouble to learn the underlying principles governing the use of the Roentgen rays, and as a result they are apt to think that because they do not see a thing well, they are not using quite enough current. Current is, therefore, crowded into their tube, and while they do see a little better for the time being, they often produce a tremendous amount of soft rays, which are being absorbed by the soft tissues of the patients and themselves, which result in a dermatitis in both the patient and the operator. An illustration of this came to my attention recently. Two physicians were examining a forearm for a foreign body by means of the roentgenoscope. The single examination was followed by a well-marked dermatitis on the hands and forearms of the two physicians, and a Roentgen ulcer on the forearm of the patient that is not yet healed, several months after the injury. In the hands of a skilful operator a foreign body such as this can be localized and removed under the direction of roentgenoscopy, and do neither the patient nor the operator harm.

In roentgenoscopy it is not necessary to use a great amount of current. Most of my roentgenoscopy is done with 1 milliampere. In all roentgenoscopy both the time and the quantity of current should be kept at the minimum.

HOW TO AVOID ROENTGEN BURNS DURING EXAMINATIONS

In the avoidance of burns one must first keep in mind the principles governing the cause of the burns:

1. To use as small a quantity of rays as is consistent with the examination.

2. To use a quality of rays that will penetrate the tissues, and not be entirely absorbed by the soft tissues. One can learn to judge the penetration by frequent use of the penetrometer and by the making of many roentgenograms.

3. To make every examination as short as is possible, thereby lessening the total amount of rays to be absorbed.
4. To use intensifying screens when practicable.
5. To use filters for the elimination of the softer rays.
6. To confine the rays to the part actually under examination.

Burns of the operator may be avoided: (1) by keeping entirely out of the field of rays, by working from an adjoining room with lead-lined walls between, or by the use of lead-lined cabinets; (2) by confining the rays about the tube so that the only way of exit is through the aperture made for the examination of the patient; (3) by means of protecting shields, aprons, gloves, masks, etc. In fact, all these should be combined.

Burns during Roentgen therapy may be avoided, (1) by following the same general principles referred to in diagnosis; (2) by measuring each dose given and never exceeding the limit of skin toleration as indicated by the dose meter; (3) by allowing an interval of three weeks between the repetitions of the dose on any particular area of skin; (4) by the use of more filtration than would be used in diagnostic work; (5) by keeping in mind the fact that epithelium and glandular tissue are more sensitive than other tissue to the rays; (6) by avoiding any other form of irritation on the skin treated, such as counterirritation, high-frequency currents, liniments, stimulating ointments, antiseptics, etc.

The details necessary in carrying out the foregoing principles will vary with the individual operator and his circumstances, but they should receive the most careful attention. I believe that roentgenology is more distinctly a specialty than any other, because to master it one must be a good physician, must have a good general knowledge of pathology both in general medicine and the specialties, must have a large equipment, must give much time to the mastery of details, and must always be cautious.

1321 Spruce Street.

TREATMENT OF TETANUS BY THE "RATIONAL" METHOD OF ASHHURST AND JOHN

THE DEVELOPMENT OF SUPPURATIVE SERUM (ASEPTIC) MENINGITIS FOLLOWING THE INTRASPINAL INJECTION OF TETANUS ANTITOXIN; WITH REPORT OF A CASE *

WALTER V. BREM, M.D.
LOS ANGELES

In a recent article on the treatment of tetanus, Ashhurst and John[1] conclude that the rational use of tetanus antitoxin consists in (1) the intraneural injection of antitoxin; (2) the intraspinal injection; (3) the intravenous injection, and (4) the infiltration of the tissues about the site of the injury.

The quantity used should be very much greater than the quantity that has usually been given heretofore by the subcutaneous route. In one of their cases in which the subcutaneous route was used, 224,000 units were administered in three days. But such an enormous quantity is not demanded when the intraneural and intraspinal routes are chosen. These authors feel that the outlook for patients with tetanus is much brighter now since the development of this method of administering antitoxin, and that the old view, that antitoxin is of no avail after the symptoms of tetanus have developed, must be abandoned.

In 1910, at Colon Hospital, Canal Zone, I treated four cases of tetanus by intraneural, intravenous and subcutaneous injections of antitoxin, and used chlorbutanol (chloretone) and morphin as sedatives. These cases are reported in detail by Hill.[2]

One of these patients, whose case was a severe one with a ten-day incubation period, recovered. From this patient the infecting tetanus bacillus was passed through a series of guinea-pigs. The last two of these pigs, after local tetanus was well developed, were treated by postorbital injection of 1 c.c. of tetanus antitoxin. One pig recovered, and the other seemed to be recovering when it was accidentally killed by a subcutaneous injection of chlorbutanol in alcohol. Smears made from the wounds showed Gram-positive bacilli that appeared to be in all stages of degeneration. This was shown by great swelling and granulation of the bacilli, atypical shapes, and the absence of spore formation. Furthermore, the splinter which had been removed from the patient's wound and had been used in successive inoculations, failed to infect another pig when removed from the last-treated animal. The dosage used in treating these animals postorbitally was equivalent to about 30,000 units in an adult man.

I have not had an opportunity since then to examine the results that I obtained in the treatment of these guinea-pigs, but I felt the results suggestive enough to warrant the use of intraspinal injections in future cases of tetanus. I was ready, therefore, to accept the views of Ashhurst and John when their article appeared, and shortly afterward I had an opportunity to apply, successfully, their methods to the treatment of a patient with cephalic tetanus, which developed after a six-day incubation period.

REPORT OF CASE

Injury by baseball on upper lip; six-day incubation period; gradual onset; intraneural, intraspinal and intravenous injection of 98,000 units of tetanus antitoxin and infiltration of lip about the injury; suppurative serum (aseptic) meningitis following intraspinal injection of antitoxin; rapid recovery.

The case occurred in the private practice of Dr. P. Newmark of Los Angeles, who called me in consultation and requested me to treat the patient. I wish to thank Dr. Newmark here for permitting me to publish the case-report, and for his courtesy and encouragement during the trying days of the treatment.

History.—The patient was a robust man aged 21. He had been struck on the left side of the upper lip by a baseball on Saturday, July 12, 1913. The blow caused an abrasion of the skin, and the mucous surface of the lip was cut by the impact against a tooth. The skin abrasion was treated with hydrogen peroxid by the patient's mother several hours after the injury occurred. Healing of the wounds, both inside and outside, was rapid. On Friday evening, July 18, the patient's teeth clamped down tightly on a cigar that he had begun to smoke, and he noticed that his jaws were stiff. His jaws were stiffer on Saturday, the 19th, and he began to feel pain in his back. He called on Dr. Newmark on this date, but not finding him he did not see him until Sunday afternoon, July 20, when the back was more painful and was stiff and the jaws were about as stiff as on the day before. The patient was taking only liquid nourishment. On Sunday evening I saw the patient with Dr. Newmark, who suspected tetanus.

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* Read at the meeting of the Los Angeles County Medical Association, Oct. 16, 1913.

[1] Ashhurst, A. P. C., and John, R. L.: The Rational Treatment of Tetanus, Am. Jour. Med. Sc., 1913, cxlv, 806; ibid., 1913, cxlvi, 77.

[2] Hill, E. W.: Tetanus, Arch. Int. Med., Dec., 1911, p. 747.

Physical Examination.—July 20, 8 p. m.: The patient was sitting up in bed, smiling and talking. His speech was somewhat thick and his jaws seemed stiff. He was a well-nourished, robust young man. The teeth could be separated only 1 cm. There was a slightly indurated area on the left side of the upper lip, and a scar on the corresponding mucous surface. The throat was not sore, and there were no tender teeth or swollen gums, and no enlargement of the cervical lymph-nodes. Examination of the heart, lungs and abdominal viscera revealed nothing abnormal. The back was stiff, and flexion of the body caused pain. The neck was not stiff, and the chin could be lowered almost to the sternum.

Reflexes: The patellar reflexes were much exaggerated; there was no ankle-clonus; Kernig's sign was not present though the hamstring tendons were quite tense when the leg was extended; the superficial and deep abdominal reflexes were exaggerated, and also the cremasteric reflex. Reflexes of the upper extremities were about normal.

At this time 8,000 units of tetanus antitoxin were given subcutaneously.

July 21, 8 p. m.: Dr. H. G. Brainerd was called in consultation and he confirmed the diagnosis of tetanus. The patient's jaws were perhaps slightly stiffer, his neck muscles were growing stiff, his back was slightly bent backward and his chest thrown out, giving a pouter-pigeon effect. The reflexes were increased more than on the 20th, and the biceps reflex was exaggerated. There had been no convulsions. The patient was removed to the hospital and prepared for operation for the intraneural injection of the left facial nerve. Before the operation he complained of great pain in his back and he showed definite opisthotonic spasms.

The left facial nerve was exposed by Dr. F. S. Ray, who cut down through the left parotid gland. An unknown, but small, quantity of tetanus antitoxin was injected into the sheath of the nerve, and the surrounding tissues were infiltrated. A small drain was left in the wound. A lumbar puncture was then made and about 20 c.c. of cerebrospinal fluid were removed and 13,000 units of antitoxin injected; 10,000 units were then given intravenously, and the site of the injury on the lip was infiltrated with 2,000 units.

The cerebrospinal fluid was clear, pressure 170 mm. in a capillary tube, no cells were seen in 1 c.mm., the butyric acid test was doubtful (reaction ±), with 0.2 c.c. Wassermann test negative. Five c.c. of the fluid were injected subcutaneously into a guinea-pig, which remained well.

July 22, 9 a. m.: The patient vomited twice after the operation. The temperature was 101.4, the pulse 84. There was severe headache and backache. The jaws were opened less widely, the back was stiff and there was a tendency to opisthotonos. Sixty grains of chlorbutanol in olive-oil by rectum, and ¼ grain morphin hypodermically were ordered according as circumstances might require.

3 p. m.: Condition was the same. Kernig's sign was marked. Tetanus antitoxin, 20,000 units intravenously and 10,000 units intraspinally, was injected.

Cerebrospinal Fluid: Fifteen c.c. of turbid, whitish fluid were obtained. Pressure was 210 mm. The cells numbered 3,940 per cubic millimeter; polymorphonuclear neutrophils predominated, but there were many lymphocytes and endothelial cells. Stained smears from the centrifugalized sediment showed no bacteria. Aerobic and anaerobic cultures on blood-agar and hydrocele-agar remained sterile. Aerobic and anaerobic cultures from Cutter's and Parke, Davis & Co.'s antitetanus serums remained sterile.

July 23, 9 a. m.: Patient's condition was about the same as yesterday. The signs of meningitis were well marked, and almost obscured the signs of tetanus. Temperature was 101.8, pulse from 40 to 60; there was severe headache and backache, the neck was stiff, Kernig's sign was marked; chest protruded, abdominal and spinal muscles were hard, spine curved backward. There was facial paralysis on left. The operative wound was clean.

3 p. m.: Tetanus antitoxin, 10,000 units, was given intravenously. By lumbar puncture about 25 c.c. of turbid, whitish fluid were obtained. It was more cloudy than on yesterday. Pressure was 340 + mm. The cells showed great predominance of polymorphonuclears and fewer lymphocytes and endothelial cells than on yesterday. Smears and cultures (aerobic and anaerobic on hydrocele-agar) were negative for organisms.

July 24, 9 a. m.: Patient's condition was improved, headache was not so severe, jaws opened more widely, neck and back were not so stiff, patellar reflexes were still exaggerated, Kernig's sign was marked, and there was no ankle-clonus.

3 p. m.: Tetanus antitoxin, 10,000 units, was given intravenously. By lumbar puncture about 20 c.c. of fluid were obtained. It was less turbid than on yesterday; pressure 300 mm. Cell-count showed 1,020 per cubic millimeter, polymorphonuclears predominating; there were only a few lymphocytes and endothelial cells. Smears were negative for organisms. Cultures (aerobic and anaerobic on hydrocele-agar) remained sterile.

July 25, 9 a. m.: Patient's condition was much improved, temperature was normal, there was no headache, neck and back were much less stiff, jaws opened widely, left facial paralysis was gradually clearing up, and Kernig's sign was present but less marked.

5 p. m.: Tetanus antitoxin, 10,000 units, was given intravenously. No lumbar puncture was made.

July 26, 9 a. m.: Condition was greatly improved. Temperature was normal, pulse 72. There was no headache; jaws were widely opened; Kernig's sign was present but less pronounced, and patellar reflexes were slightly exaggerated. The patient was bright and felt well and hungry. His bowels had moved well, but he had not been able to void urine voluntarily since the operation and had had to be catheterized. No antitoxin was given to-day and no lumbar puncture made.

July 28, 9 a. m.: Condition was excellent, temperature and pulse normal, no headache, appetite good, bowels normal, urination spontaneous, mouth opened widely, facial paralysis was improving, patellar reflexes were slightly exaggerated, Kernig's sign was present when thigh was flexed on abdomen, but negative when flexed to a right angle. Patient was discharged from the hospital.

Subsequent History.—The patient convalesced rapidly, though his reflexes remained slightly exaggerated for about two weeks. The facial paralysis had almost disappeared three weeks after the operation. During convalescence the skin over the left parotid gland puffed up with parotid secretion, which formed a fluctuating mass without redness, pain or local heat. Dr. Ray aspirated the fluid with a hypodermic syringe several times and put on a dressing with slight pressure. This quickly checked the secretion and healing was complete.

Summary.—Young man of 21 years, cephalic tetanus, six days' incubation period, gradual onset, treatment begun eight days after injury and two days after onset of symptoms; intraneural injection of unknown but small quantity of tetanus antitoxin into left facial nerve; intraspinal injections of 23,000 units; intravenous injections of 60,000 units; subcutaneous injection of 8,000 units; infiltration of tissues about site of injury with 2,000 units, total quantity of antitoxin 98,000 units; development of meningitis within six hours after first intraspinal injection, purulent fluid sterile by microscopic and cultural aerobic and anaerobic examination; rapid recovery from tetanus and meningitis.

DISCUSSION

Cephalic tetanus is a very fatal type of the disease, and the outlook is extremely grave in any type with an incubation period of only six days, the mortality being from 60 to 80 per cent. In the case here reported the type of the disease and the incubation period would indicate a grave prognosis, and one is tempted to grow enthusiastic over the method of treatment that was associated with such a prompt recovery. But it must be remembered that the onset of symptoms in the case was very gradual, which is a favorable prognostic sign, and that there was some chance of the patient's recovery without the antitoxin. Nevertheless, the recovery of the patient, and especially the very rapid recovery, gives great encouragement for the future treatment of tetanus along the lines suggested by Ashhurst and John.

A phenomenon of almost as great interest as the recovery under the treatment given was the development of a true suppurative meningitis, with all the clinical signs of meningitis, following the intraspinal injection of tetanus antitoxin. This was proved to be, without doubt, of non-bacterial origin bv the microscopic examination of the cerebrospinal fluid, by aerobic and anaerobic cultures, and by the recovery of the patient. The reaction did not appear to be due to hypersensitiveness to the horse-serum, for the patient had never before this illness been given antitoxin of any kind, he was not an asthmatic, nor did he have any reaction when given 8,000 units subcutaneously of tetanus antitoxin the night before the intraspinal injection.

In the literature that I have been able to examine, the only references to aseptic meningitis following the intraspinal injection of serum are made by Sophian[3] and by Sladen.[4] Sophian says:

> In this group (aseptic meningitis) may be mentioned cases showing clear fluid on lumbar puncture but with clinical symptoms of meningitis sufficiently suspicious to warrant the intraspinal administration of serum. Such cases will frequently give a turbid, purulent, sterile fluid at a later puncture also as a result of the reaction set up by the serum. No damage, however, results in such cases, as the fluid clears up in a few days with no after-effects.

The proof is not absolute in this group of cases that the purulent meningitis was a reaction to the serum, for before the serum was given the patients had "clinical symptoms of meningitis sufficiently suspicious to warrant the intraspinal administration of serum."

When the cerebrospinal fluid is examined very early in meningococcus meningitis it may not be purulent and may show no meningococci. If serum is injected at this time, the fluid may still become purulent and yet the serum may prevent the appearance of meningococci. The cases spoken of by Sophian do not present, therefore, conclusive evidence of a serum meningitis, but they are very suggestive.

Sladen, in discussing the effect of the injection of antimeningitis serum on the spinal fluid, says:

> In every case there is a very constant, positive chemotaxis for polymorphonuclear leukocytes in the spinal fluid. This has been observed in one case of influenzal meningitis. In six cases of tuberculous meningitis the clear spinal fluid with predominating small mononuclear cells has become clouded with polymorphonuclears after serum, and the small mononuclear cells have totally disappeared.

These observations of Sophian and Sladen and my own case seem to demonstrate conclusively that the introduction of a foreign serum into the spinal canal may cause a reaction that presents all the clinical and pathologic evidences of an acute suppurative meningitis, except that no bacteria can be demonstrated in the purulent cerebrospinal fluid. It seems plausible, furthermore, that the exacerbations frequently following the intraspinal injections of serum in meningococcus meningitis are due to the reaction to the horse-serum, and that it is independent of the condition of hypersensitiveness.

These facts are of the greatest importance to those who are called on to inject substances intraspinally. This route for therapeutic measures is being used more and more frequently, and it is probable that many instances of serum meningitis will be seen. It will be interesting to know whether or not the intraspinal injection of salvarsanized human serum by the method of Swift and Ellis[5] may sometimes stimulate the reaction. These authors[6] report a great increase of cells in the cerebrospinal fluid of normal monkeys after the intraspinal injection of salvarsanized monkey-serum, and that the cells causing the increase were chiefly polymorphonuclears. In one instance the number reached over 4,000. I have seen an increase of cells in two patients two weeks after an intraspinal injection of salvarsanized serum, and in one case there were 22 per cent. of polymorphonuclears. It is probable that the number of cells and the percentage of polymorphonuclears would have been much greater if the fluid had been examined shortly after treatment.

When a meningitis reaction does occur it may be very alarming, especially if one is not cognizant of the fact that such a purulent meningitis may be sterile and caused entirely by the serum. I myself was not aware of it at the time my case occurred, and I felt that I had infected the patient during the intraspinal injection. Happily, this was not true, and I trust that the publication of the case-report may save some one else the stress of feeling that he has superimposed a bacterial meningitis on a case of tetanus.

Note.—Since submitting this report for publication I have found a report by J. A. Sicard, ("Serous Meningitis and Anaphylaxis after Spinal Serotherapy," Presse Méd., xviii, No. 92; abstr. The Journal A. M. A., Jan. 7, 1911, p. 78) in which he states that he encountered the reaction from the intraspinal injection of antimeningitis serum in nervous and mental cases. After the injection these patients developed fever, headache, nausea a suggestion of Kernig's sign, and pains in the legs. The cerebrospinal fluid became turbid and showed a polynucleosis gradually yielding to lymphocytosis. Sicard suggests that in acute meningitis the symptoms have masked those due to the serum reaction, which explains why the latter have not been recognized before. He states that the reaction has nothing to do with anaphylaxis as it occurs with the first injection.

423 Security Building.

A NEW AND LOGICAL TREATMENT FOR ALCOHOLISM

A PRELIMINARY REPORT

B. L. SPITZIG, M.D.
CLEVELAND

Personal observation of the effects of the treatment proposed in this communication extends over a period of two years. Although this study is too incomplete to determine the permanency of the therapy advocated, yet the progress of the limited subjects treated is so unassailable that I consider this field for investigation worthy of proposal to others for more extended research.

The type of patient governs largely the success or failure of this treatment. The derelict who has no ambition to cooperate with his physician is a poor subject for trial. The best results are obtainable among the intelligent class who have sufficient interests at stake to make their recovery a matter of vital importance to society at large. After reclamation these persons possess sufficient momentum to persevere in their treatment and to guard themselves against a reversion to former conditions.

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[3] Sophian, A.: Epidemic Cerebrospinal Meningitis, St. Louis, C. V. Mosby Company, 1913, p. 100.

[4] Sladen, F. J.: The Serum Treatment of Meningitis, The Journal A. M. A., Oct 17, 1908, p. 1318.

[5] Swift, H. F., and Ellis, A. W. M.: The Treatment of Syphilitic Affections of the Central Nervous System, with Especial Reference to the Use of Intraspinous Injections, Arch. Int. Med., September, 1913, p. 331.

[6] Ellis, A. W. M., and Swift, H. F.: The Effect of Intraspinous Injections of Salvarsan and Neosalvarsan in Monkeys, Jour. Exper. Med., 1913, xviii, 428.

The study of the habits and characteristics of the alcoholic in eating and drinking had always been a source of great personal interest to me, and the following observations seemed particularly pregnant: Many tipplers begin at an age when boyish habits have yielded to those of the man. At maturity the demand for carbohydrates is gradually lessened. Usually the adolescent loses his craving for sweets and begins to indulge in alcoholic beverages. As the supply of alcohol is increased the desire for sugars is correspondingly diminished until a time when alcohol is taken in preference to carbohydrates. In alcoholism, then, there is often a positive aversion for sugar. This history of certain characteristics in the chronic alcoholic is quite general. He uses no sugar in coffee and tea and cares little for pastries and starchy products. Stimulating food, rich in condiments, is his mainstay and his appetite for stimulating drink is thereby increased. The body, in consequence, receives a minimum of sugar and becomes accustomed to more alcohol, which has now replaced the former. This is evident from a study of the relationship existing between the type of beverage used and the degree of the resultant alcoholism. The moderate drinker often utilizes a sweetened product and is satisfied to indulge in moderation. He assimilates both sugar and alcohol and his thirst is stilled with less drink. The confirmed alcoholic cares for no sugar and absorbs greater quantities of unsweetened alcohol to satisfy his bodily economy.

The chemical relation of carbohydrates to alcohol is significant. Dextrose is convertible to carbon dioxid and ethyl alcohol. The combination of carbon, hydrogen and oxygen makes for increased nutrition whether it be derived from alcohol or indirectly from sugars and starches. The human organism when deprived of sufficient sugar seems of necessity to demand an increased supply of alcohol. Conversely, when the body is satiated with alcohol, it has little need for carbohydrates.

TREATMENT

Chronic alcoholism is treated on the basis of the foregoing proposition—the supply of alcohol is diminished and sugars are increased. This renders the early weeks of treatment a time during which the perversion is easily remedied. Many former systems have failed in that alcohol was suddenly withheld and nothing substituted to satisfy the craving. Narcotics merely benumb the alcoholic desire, but seldom accomplish a permanent cure. The demand for alcohol in the perverted metabolic state of the alcoholic is not mental alone, but physical or rather physicochemical. When the body-cells are supplied with a physiologic balance of carbohydrates there is no further demand for alcohol.

At the inception of treatment the diet is modified to contain an abundance of sugar. Cereals with cane-sugar, sweet fruits, pastries, chocolates and ice-cream are advised. In some cases, owing to a distaste for sugars, this change must be gradual to prevent rebellion. Here lactose is used, a dram every two hours, given in the form of a medicinal powder to encourage the psychic effect. Later, as the demand for alcohol is palliated, ordinary sugars are taken with avidity.

The use of alcohol is generally interrupted by degrees. Cathartics and diuretics are advised to remove the accumulated poison and prevent an acute intoxication. The weaning from alcohol is accomplished by the substitution of highly sugared liquors, which are rapidly reduced in quantity. Toddies, juleps and sweet wines yield the best results. A sweetened liquor relieves excessive craving in from one to four weeks. The average alcoholic omits alcohol after from three to five days, but a premature withdrawal is to be avoided.

Combinations of capsicum and nux vomica are sometimes necessary during the first week to allay the gastritis. Soporifics are used to soothe the nervous manifestations. After self-confidence is reestablished all medication is interrupted and the sugars are gradually decreased. With care in studying the carbohydrate-tolerance, glycosuria can usually be avoided.

CONCLUSION

The demand for alcohol has been ascribed in the past to a psychic defect. Pledges have been broken and weakened will-power has been considered the causative factor. In virtue of these studies it appears that the alcoholic suffers his relapses through physicochemical disturbances. A clearer understanding of the needs of human economy has effected much toward obviating the discouraging results of the past.

446 Rose Building.

ADMINISTRATIVE AND PROPHYLACTIC MEASURES AGAINST ALCOHOLISM

ALFRED GORDON, M.D.
PHILADELPHIA

In view of the well-demonstrated effect of alcoholism on the physical and mental health of the individual at an early age and in adult life, and also of the particularly disastrous influence on the successive generations of offspring of alcoholized parents, the question naturally arises as to the responsibility of the community as well as of its individual members in the matter. The alarmingly increased number of victims of alcoholism calls for very serious thought directed toward preventive measures.

It must be borne in mind that an alcoholic subject is harmful to himself through his lowered physical and mental status; to the community at present through his tendency to commit criminal acts, and to society for the future because his descendants may be degenerate through several generations. Can society protect itself by creating laws against alcoholism?

In my opinion, legislative acts can be of assistance only in one respect, namely, by largely limiting the production of alcohol in preventing the unlimited manufacture of alcoholic beverages. A very high tariff and high taxes will naturally restrict this industry considerably, and render the beverages less accessible to persons of ordinary means. But it must be borne in mind that such legislative measures are not to be expected in view of the fact that laws are usually enacted by legislators, some of whom are financially interested in the industry.

On the other hand, laws designed to suppress alcoholism merely by imprisonment or other punishment are entirely inefficacious, because they purpose to remove the effect but not the cause. One who is addicted to the repeated or continuous abuse of alcohol belongs in the domain of morbid psychology. Whoever analyzes the psychic processes which lead to alcoholism must admit that they include profound changes in the mentality, deep lacunae in the cerebral organization, so that one thus affected loses his inhibition power, hence acts on impulse, and therefore is in need of medical attention, but not of a prison.

Ordinarily, the alcoholics are sent either to prison or to asylums for the insane, according to the degree of individual responsibility determined by the committing judge. For criminal acts committed during a phase of delirium the alcoholic must be considered irresponsible, and he therefore falls into the category of the insane. An asylum is the only place for such.

If alcoholics have not reached the condition of actual dementia, they frequently recover from acute attacks or, more frequently, recover sufficiently to be considered responsible. The law, of course, requires prompt removal from the asylum. In the majority of cases the alcoholic is a recidivist. Return to alcoholic excesses usually occurs and with it a return to criminal acts is a great possibility. The recommitment to asylum is inevitable. Thus certain persons spend a considerable time between the saloon and the insane asylum. This is the common experience of those who have to deal with this class of cases. The insufficiency and inadequacy of our laws concerning the freedom of chronic alcoholics is self-evident.

Apparent recovery from individual attacks does not constitute a genuine recovery from deeply seated intoxication. The elimination of drink for a period of two or three weeks does not conduce complete recovery from an old intoxication, which perceptibly affected the power of thinking and of inhibition. Considerable time is required to accomplish this, and if in a chronic subject acute symptoms quickly subside, the likelihood is great that the condition will recur. From a medical point of view, a prolonged detention is indispensable in such cases, not only for the benefit of the patient, but also and particularly for the benefit of society in general.

The protection of the community is of paramount importance. As the detention of chronic alcoholics in insane asylums may be detrimental to them after they recover from the acute symptoms, and, on the other hand, liberty is decidedly injurious to them and dangerous to society, which claims protection, the creation of special institutions is logically indicated.

A hospital exclusively for inebriates is a necessity. It should possess the power of judicial as well as of medical authority. It is urgent that alcoholics with, as well as recidivists without, a criminal record be placed where they may receive medical treatment. They should not be permitted to leave until the medical authority, after prolonged observation and treatment, finds that it will be safe to set them at liberty. Special laws are of course necessary to regulate the authority of the medical officer in charge of the institution. To avoid arbitrary action and abuse in cases of prolonged detention a judicial officer should join the medical staff. Thus an impartial and scientific decision will be reached in cases in which the legality of detention is questioned.

The public should be instructed as to the utility of such an institution. It should be viewed from a purely humanitarian point of view. It should be regarded as a hospital in which alcoholics as diseased individuals receive medical treatment. It is not only the immediate alcoholic excess that requires medical attention, but also and chiefly the underlying make-up of the person in whom alcoholism is merely incidental. To such an institution should be admitted all alcoholics irrespective of the degree of intoxication. Those whose alcoholic history is but brief are susceptible of complete recovery. Inveterate alcoholics and those with criminal records should be detained indefinitely. Thus both the individual and society will be protected. The alcoholic will be deprived of his liberty, which otherwise he would use to injure others, and at the same time he will receive special care and humane attention to a condition which renders him irresponsible. Besides, an institution of this nature will relieve the prisons of a number of alcoholics, whose irresponsible acts committed during an acute outbreak led them there and thus an important medicolegal question will be solved. It will relieve the insane asylums, whose overcrowded condition has been a matter of great concern. Moreover, an inveterate alcoholic cannot recover in an ordinary asylum. The rules applied to insane individuals cannot be applied to alcoholics, who rapidly recover their intelligence to a large extent. The continuous contact of delusional persons with alcoholics is injurious to both. The latter are frequently a cause of disturbance in an institution for the insane.

The medicolegal advantage of a special institution for inebriates is of great importance. The detention of an alcoholic presents some difficulty in regard to the question of personal liberty. But in order to render a special institution for inebriates useful and powerful in its struggle against alcoholism, in order that the community should derive the greatest possible benefit in its own protection, it will be necessary that the patient be detained for a period so prolonged that no doubt is left as to the recovery in the unprejudiced mind of the medical authority. Detention of an alcoholic among other alcoholics beyond the time when he has apparently recovered his mentality is not at all prejudicial to him, while his detention among the insane under the same circumstances is, beside being injurious to him, decidedly unjust.

To sum up, a special institution for inebriates has for its purpose the treatment and cure of alcoholic patients whose mental disturbances are the result solely of repeated or continuous use of alcohol; also the indefinite detention of alcoholic persons whose actions have proved them to be dangerous to the community. It is self-understood that actual dements, whose dementia is the result of old alcoholism or insane persons whose preexisting mental disorder may be modified by the occasional use of alcohol belong to insane asylums, but not to special institutions for inebriates.

As to the management of these special institutions and of their inmates, the following main principles appear to be of some practical value:

1. Patients should be classed and grouped according to the degree of intoxication, the presence or non-presence of delirious, delusional or hallucinatory phenomena, the chronicity of the intoxication and the existence or nonexistence of criminal tendencies.

2. The use of alcohol must be absolutely forbidden to all inhabitants of the institution.

3. The greatest effort should be made toward improvement of the general health by appropriate dietetic and hygienic measures.

4. Since physical labor, to which every patient free from delirious condition should be accustomed, is an excellent and in fact indispensable adjuvant to diet and hygiene, the spirit for work should be cultivated when-

ever possible. It is one of the most useful methods in treating those who have defective cerebral inhibition. Systematized labor properly directed will accomplish a double purpose. It will first of all encourage those patients who have sufficiently recovered to realize that the institution is managed from a humanitarian point of view; namely, to assist them in their present condition and after their return to their homes. In the next place, the institution from such an arrangement may become self-supporting. Social service is a useful adjuvant to such a plan. It will facilitate the return of the subject to a normal life by procuring him work, by properly advising him and by developing in him the spirit of hopefulness and initiation.

At the beginning of this article it was shown what preventive legislation may do. Reduction of the number of saloons may help to a certain extent, but such a procedure is considerably less valuable than reducing the production of alcoholic beverages, as the existence and increase of saloons are the result of a demand for alcoholic beverages. As legislation in either direction is intimately associated with political agitation, our endeavors in this respect will naturally fail. The increase of saloons does not increase the number of drinkers; it is the demand for alcohol that increases the number of saloons. It behooves us, therefore, to combat and endeavor to remove the morbid desire for alcohol. The principle of diminution of the number of saloons, however, should be adopted.

A more useful measure for decreasing and preventing alcoholism is propaganda in its broadest sense. The moral and intellectual influence of various antialcoholic societies is beneficial. The good they do cannot be sufficiently appreciated. Moral persuasion and conviction is most efficacious in that direction. The widest publicity concerning the effect of alcohol on physical and mental health should be considered as vital. The public should read and see the pernicious consequences of alcoholism. Lectures and clinics should be systematically organized and actual demonstrations given. The public should be invited to visit particularly institutions for the feeble-minded where they could see for themselves specimens of humanity brought into the world by parents whose alcoholic excesses have thrown on the community a useless burden. Imbeciles, idiots, and those otherwise mentally deficient, epileptics and children with all sorts of morphologic abnormalities, result from parental acquired diseases or pernicious habits of which alcoholism is one of the most conspicuous.

Propaganda against alcoholism should be particularly applied to young persons and children. The rôle of the physician is here indicated. It is he who comes in contact with families. As counselor in medical and hygienic matters he can use his great influence in various circles. Considered as a man of knowledge and experience, he will be listened to. He can prevent parents from giving children their first taste of drink. It is he who controls the diet and hygiene of children. It is to him that the mother addresses herself for advice as to the habits of her children.

Next to the physician is the children's teacher. But the teacher himself must be well informed as to the nature and dangers of alcoholism. He should have taken, before he is permitted to instruct, a special course in social hygiene in which the effects of alcoholism should occupy a prominent place. Such a course should be given in schools and colleges, and the instruction should be not only theoretical but also practical. It is necessary that every youth leaving school should possess a fundamental knowledge of the effect of alcohol on tissues, organs, the nervous system, the mentality and the offspring. From a tender age the child should be thoroughly imbued with the idea that alcohol is one of the most obnoxious and dangerous poisons. It is the knowledge of what is true, useful and indispensable in life that presents the most powerful weapon against the acquirement of pernicious habits or diseases. Imparting this knowledge constitutes real scientific prophylaxy.

The public at large should be familiarized with the fact that one of the threatening features of alcoholism is depopulation not only quantitatively, but also qualitatively. It leads to a degeneration of both the individual and the species. It produces a slow and progressive individual deterioration and an intellectual and physical sterility of the race.

THE DOSAGE OF COCAIN AND OTHER DRUGS USED FOR PRODUCING LOCAL SURGICAL ANESTHESIA

ALBERT H. MILLER, M.D.
PROVIDENCE, R. I.

Local surgical anesthetics are applied in three ways: externally to mucous membranes, hypodermically in the region to be operated on or in the locality of the nerve-trunks innervating the region of the operation, and by injection into the spinal canal. The effect aimed at in using local surgical anesthetics is local. Unfortunately, these drugs have also a general effect, which may be produced whether the drugs are administered externally to mucous membranes, hypodermically, or by injection into the spinal canal. The general effect depends on the amount of the drug which is administered, a greater effect being produced by a larger amount of the drug without regard to the strength or weakness of the solution in which it may be administered.

The toxicity of cocain is the objection to its general use as a local surgical anesthetic. The drugs which have been introduced as substitutes for cocain are less toxic, but cannot be considered as entirely safe. The extension of the idea that these drugs are safe in unlimited dose is bound to result in disaster.

The dosage of cocain is indicated exactly in the United States Pharmacopeia. The proper dose of the substitutes for cocain is generally unindicated and impossible to learn from medical literature. The dosage of these drugs is given in the literature furnished by the manufacturers in strength of solution, the inference being that any amount of a solution of that strength may be employed with safety. The dosage is calculated for the local effect without considering the general effect of the drugs.

The following series of cases illustrates the result which may come from this inexact employment of the dangerous drugs known as local surgical anesthetics. This series of cases was reported to the Providence Society of Anesthetists, Feb. 28, 1913.

Number of cases	103
Minor surgical operations	35
Genito-urinary operations	68
Anesthetic	alypin, one of the safest of the cocain substitutes, in the strength of solution recommended. Amount of solution used unmeasured.
Death due to anesthetic	1
Serious difficulty	2
Satisfactory anesthesia	100

The cases of death and of serious difficulty are reported in detail. The numbers given to the cases here are not the serial numbers.

CASE 1 (June 15, 1912).—Patient, healthy man, aged 39. Operation, dilatation of stricture of urethra. Anesthetic, about 2 drams of a 10 per cent. solution of alypin, introduced through the meatus into the urethra and bladder.

About two minutes after the introduction of the anesthetic, the patient cried out and had a general muscular convulsion. During the next ten minutes there were about a half dozen such convulsions. Respiration ceased in seven or eight minutes. At the end of ten minutes the pulse had ceased to beat. Artificial respiration and stimulation were used, but in spite of these, the patient died.

CASE 2 (July 7, 1912).—Patient, healthy male. Operation, passing sounds for retention of urine. Anesthetic, unmeasured quantity of 10 per cent. solution of alypin introduced into urethra and bladder through meatus.

After about five minutes there was a general convulsion. The pulse became imperceptible. Respiration ceased. The patient was revived with difficulty after about two hours' work.

CASE 3 (Aug. 6, 1912).—Patient, apparently healthy male. Operation, dilatation of stricture of the urethra. Anesthetic, about 1½ drams of 10 per cent. solution of alypin introduced into urethra and bladder through meatus.

Anesthesia seemed very satisfactory. In three minutes patient became unconscious. After about five minutes there was a severe general convulsion. Respiration ceased. The pupils were widely dilated. The face was somewhat cyanotic. The pulse continued good. Treatment, artificial respiration and inhalations of oxygen. In ten minutes danger seemed to be passed. Patient recovered.

If an overdose of alypin was administered in these cases, it can be said that there is nothing in the literature of this anesthetic to indicate that the amount used was unreasonably large. The same criticism can be made of the dosage, as published, of nearly all the cocain substitutes. The revisers of the United States Pharmacopeia set the dose of cocain at ½ grain. The dose of all the cocain substitutes should be stated as clearly as this, putting in a subordinate position any statements as to strength of solution in which the proper amount of the drug may be employed. In this way further fatalities from these very valuable products may be avoided.

279 Benefit Street.

THE ELIMINATION OF GASTRIC DISTURBANCE PRODUCED BY SODIUM CARBONATE, IODIDS, OIL OF SANDALWOOD AND SIMILAR DRUGS

EDGAR G. BALLENGER, M.D.,
AND
OMAR F. ELDER, M.D.
ATLANTA, GA.

For a number of years we have been working to discover some method of obviating the gastric disturbance which is produced by remedies such as potassium iodid, oil of sandalwood, sodium salicylate, sodium carbonate, etc. This we have finally and satisfactorily accomplished. Remedies, such as oil of sandalwood, creosote and oleoresins administered in soft gelatin capsules may be prevented from disturbing the stomach by the process of hardening with formaldehyd the capsules in which they are placed.

Only slight hardening is necessary, especially if the capsules are kept for some time, as additional hardening comes with age. At first we immersed the filled capsules for one minute in a dilution of 1 part 40 per cent. formaldehyd solution to from 40 to 60 parts of water. The strength should vary with the ageing allowed.

From the time that the dilution mentioned is used two weeks should be allowed to intervene before administering the capsules. A more satisfactory method of preparing the capsules is to place them in open boxes in a closed vessel in which they are subjected to the vapor of the solution of liquor formaldehydi. About 15 c.c. of the solution should be used for each cubic foot of space in the closed vessel. The solution should be placed on cotton or gauze in a saucer or tray. The time required for hardening the capsules varies with the temperature and with the time that is to be allowed before they are administered. Six hours' exposure or less is enough for capsules which are not to be administered at once, while twelve hours may be necessary in preparing capsules for immediate use. These estimates are made for ordinary soft gelatin capsules at the ordinary room temperature, from 70 to 75 F. The capsules become hardened so that they are not digested by the gastric juice, but are digested by the intestinal secretion, if they have not been subjected too much to the vapor, in which case they may pass undigested. If dilatation of the stomach is present and the capsules or food do not pass into the intestines within the usual time, a greater degree of hardening of the capsules may be necessary. For the ordinary normal person capsules prepared as previously described will prevent gastric disturbance by carrying the medicament into the intestines before the capsules burst.

An even more satisfactory method of carrying through the stomach such remedies as sodium carbonate, potassium iodid, sodium salicylate, etc., is obtained by combining the desired remedy with mutton-suet and paraffin. When incorporated in such a mass the medicament is uniformly carried into the intestines without dissolving, as the stomach does not secrete a fat digestant. The suet is digested as it passes down the intestines and thus gradually the drug embodied in it is liberated. The paraffin is added to give additional hardness. The following combination is recommended:

		gm. or c.c.	
℞	Sodii carbonatis monohydrati	90	℥ iii
	vel		
	Potassii iodidi	90	℥ iii
	vel		
	Sodii salicylatis	90	℥ iii
	Sevi	30	℥ i
	Paraffini	16	ʒ iv

M. et fiat mass.

All the ingredients should be melted over water and while melted encapsulated in 00 gelatin capsules. The capsules may be filled with a fruit-spoon. The melted mixture should be of a creamy consistency, and the salt used should be previously powdered. The encapsulated product is a mass of the salt, the suet and the paraffin, is hard and remains unaffected by the gastric juice.

In the use of sodium carbonate, in the treatment of Bright's disease, as suggested by Martin H. Fischer, we have found this method of administration of decided value, as formerly it was quite difficult for the patient to take alkali in sufficient amounts to render the urine neutral or alkaline without producing gastric disturbance, with coated tongue and other symptoms.

The manner in which albuminuria and casts have disappeared under this treatment has been quite remarkable.

A number of patients who had been declined as risks by insurance companies because of albuminuria and casts have been passed by the insurance examiners after a few months of alkaline treatment. In order to secure the desired result we have added ¼ grain of phenolsulphonephthalein to each capsule of the monohydrated sodium carbonate preparation and have advised the patients to take from five to eight capsules daily as indicated to keep the urine light pink. This method constantly assists in regulating the amount of alkali to individual and varying requirements. The patients do not object to the use of the monohydrated sodium carbonate when so administered and can continue it over a prolonged period, when necessary. Potassium iodid so administered does not disturb the stomach, but produces its other physiologic and therapeutic effects.

In the use of remedies such as pancreatin, which it is desirable to liberate at once in the intestines and not to have dissolve slowly, ordinary gelatin capsules should be subjected to the formaldehyd vapor as suggested for the soft gelatin capsules. These capsules do not digest in the stomach and therefore carry the remedy they contain through without its being acted on by the gastric secretion. The remedies which we suggest to be incorporated in the suet and paraffin cannot well be given in ordinary gelatin capsules, as they may cause intestinal disturbance by liberating the entire amount of monohydrated sodium carbonate or potassium iodid at one point in the intestine instead of gradually freeing the mass as they pass down the tract.

We advise that in preparing the capsules controls of methylene blue and oil of sandalwood be used in test-capsules. If the capsules have been insufficiently hardened a glass of carbonated water taken two hours after the capsule has been administered will show by the eructation whether or not the capsule has broken in the stomach. If the capsules are subjected to formaldehyd vapor too long or if the gas be too strong the urine may be slow in becoming blue, or may remain unchanged. Capsules intended for immediate use may be subjected to considerably more formaldehyd than may be used on those which are to be kept for a few months.

Atlanta National Bank Building.

MOVABLE SPLEEN

RUSSELL S. FOWLER, M.D.
Chief Surgeon, First Division, German Hospital; Surgeon, Methodist Episcopal (Seney) Hospital
BROOKLYN

The term "movable spleen" includes all cases of mobility of the spleen, while the term "floating spleen" is restricted to those cases of movable spleen which are congenital in origin, in which there is a long mesentery allowing of excursions of the organ to any part of the abdominal cavity. The latter condition is comparable to floating kidney in which the mesonephron is so developed as to make the kidney an intra-abdominal organ.

During the past few years I have noted the mobility of the spleen in many laparotomies not involving septic processes. From these observations it can be stated that the normal spleen is but slightly movable, its normal excursion not exceeding 1½ inches; in fact, it is held rather rigidly suspended.

Abnormal mobility may be (*a*) congenital, owing to the development of a long mesentery; or (*b*) acquired, owing to elongation of the normal mesentery and suspensory folds, (1) from strain with or without relaxation of the abdominal walls (in the former event repeated confinements play the same rôle as in movable kidney); or (2) from tractions on the mesentery by increase in the weight of the organ (hyperplasias, cysts, tumors). Increase in size, however, does not necessarily mean marked increase in mobility.

Excessive mobility of the unenlarged spleen is rare. In a continuous hospital service totaling over thirty years, I have seen but one case. In enlarged spleen mobility is common, but even in these cases excessive mobility is not often seen.

Torsion of the pedicle is followed by atrophy of the splenic tissue in some cases and gangrene in others.

Movable spleen often does not present any difficulty in the diagnosis. Nevertheless, owing to the rarity of the affection, many errors are made. The spleen may be found in any part of the abdomen and may or may not become adherent. Unless it becomes adherent, twisting of the pedicle is common. The mass may be mistaken for a tumor of the ovary or pancreas, but is more commonly mistaken for a left movable kidney. The discovery of the characteristic notch makes the diagnosis certain. In some cases cystoscopic examination may be necessary in order to differentiate the tumor from the kidney. There are no blood changes unless the case is complicated by malaria, unless torsion has occurred in a splenomegaly, or unless acute torsion of the pedicle exists.

Many methods have been devised for holding a movable spleen in position. Tuffier, Kouwer, Rydygier and Bardenheuer have devised methods. The consistency of the spleen does not lend itself to suture. Operations which place the spleen outside the peritoneum by suspending it in a sort of pocket are best if splenopexy is undertaken at all. The results of the operation of splenopexy, however, are not such as to encourage its continuance. These patients suffer more or less from dragging pain. Splenectomy is more advisable.

In movable spleen, the excision of the organ produces slight, if any, change in the blood-picture. In splenic anemia the leukocytes rise to normal and after some months the red cells become normal.

The prognosis is good. Relief of symptoms is immediate.

The mortality of splenectomy for movable spleen is slight. Bland Sutton[1] reports that in twenty cases in which splenectomy was done previous to 1897 there were no deaths.

Schwartz[2] reports ten cases of extirpation of floating spleen; eight patients recovered. One patient died two months later of cachexia existing at the time of operation, the other of peritonitis. There was torsion of the pedicle in six cases. In all of these cases the spleen was enlarged from malaria. In only one case did the malaria recur.

Webster[3] reports a case of enlarged spleen adherent in the right iliac fossa. The pedicle had two or three twists. The patient, a woman, had noticed a swelling in the right iliac region seventeen years before. Thirteen years later the abdomen had been opened but the operator mistook the enlarged spleen for a tumor of the right kidney and desisted from further intervention. This was a case of wandering spleen with attacks of pain from twisting of the pedicle. The spleen was somewhat enlarged and congested, and contained considerable fibrous tissue.

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[1] Sutton, Bland: Lancet, London, Jan. 16, 1887.

[2] Schwartz: Gazz. d. osp., Milan, Sept. 7, 1902.

[3] Webster, J. Clarence: A Case of Successful Removal of an Enlarged Spleen, The Journal A. M. A., April 4, 1903, p. 887.

Stierlin's statistics published in 1847, based on thirty-two cases of splenectomy in floating spleen alone, collected from the literature, shows a mortality of 6.25 per cent. Some of these cases were malarial. Bossel-Hagen's[4] statistics show twenty-six cases of floating spleen complicated by malaria, with one death. In a total of forty-three cases of floating spleen, some malarial, some not, reported previous to 1905, forty patients were cured. The three deaths were due to faulty technic.

The history in the present case, in which the patient was referred by Dr. Calogero Giovinco, is as follows:

REPORT OF CASE

An Italian woman, aged 25, the mother of several children, after her last confinement began to have pain in the right half of the abdomen. This pain was dragging in character and at times quite acute and agonizing. A few months later she noticed a swelling in the left iliac region. Vaginal examination disclosed a large mass in the pelvis which was not connected with the uterus, ovaries or tubes. By manipulation it was possible to place this mass in any part of the abdominal cavity. It was about the size of a large kidney and seemed to find its resting place most readily in the right kidney region. The examination was not easy as the patient complained of considerable pain. Examination of the kidney region disclosed a loose right kidney. The left kidney seemed normal. On again feeling for the mass it could not be found and the natural conclusion was drawn that it was the kidney that was at fault. Suspension of the right kidney was performed at the German Hospital. Before placing the suspension sutures an attempt was made to make the kidney descend into the pelvis, in which the original mass had been felt, but it was impossible to cause it to descend into the lesser pelvis. This aroused suspicion as to the nature of the tumor originally noted, so after the completion of the kidney operation the abdomen was opened and the tumor found to be a movable spleen which could be moved to any part of the abdomen. Fixation was not practical, so the pedicle, about 1½ inches thick, was ligated in three sections and the spleen removed. A fourth ligature was placed on the pedicle as a precautionary measure and the raw surface of the pedicle covered.

The after-course was uneventful. The blood-count made a few hours after the operation showed 3,900,000 red blood-cells and 34,200 white blood-cells. Daily blood-counts thereafter for twenty-seven days showed a gradual decrease in the red cell-count for a few days and then a gradual increase until on the twenty-seventh day the count was 4,147,000. There was a gradual decrease in the number of white cells for the same period; on the twenty-seventh day the white count was 12,880. A few normoblasts were seen from the eleventh to the twenty-first days.

301 DeKalb Avenue.

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[4] Bossel-Hagen: Arch. f. klin. Chir., 1900, lxii, No. 1.

Care of Cows in a Certified Milk Dairy.—The production of certified milk with a minimum bacterial count requires almost as much care as the preparation for an aseptic surgical operation. A certified milk dairy near Chicago has the following routine in the preparation of the cows and the stables before milking: (1) Cows enter barn through curtained door to prevent entrance of flies; (2) barn is swept and washed out; (3) cows are cleaned: (*a*) first man brushes and currycombs the whole cow; (*b*) next man scrubs the hind quarters with a brush, and moistens tail; (*c*) third man washes the udder and hind quarters carefully with warm water; (*d*) last man dries each udder with an individual sterile towel; (4) barn is again washed out; (5) spraying machine is drawn through the barn, covering ceiling, cows and floors with a fine, antiseptic mist spray, settling all dust and inhibiting bacterial growth. Milking now commences.

A SOURCE OF DEFENSE TO HETEROPLASTIC TISSUE GRAFTING *

JAMES B. MURPHY, M.D.
NEW YORK

A year ago I reported some experiments dealing with the growth of tissues of foreign species in the chick embryo.[1] It is a well-known fact that it has been found impossible to graft the cells of one animal into an adult of another species. I have shown, however, that the embryo not only lacks entirely the quality which would make it an unsuitable host for the tissues of another species, but also offers conditions even more suitable for their growth than do the adults of the original species from which the tissue was derived. What is responsible for this difference between the adult and the embryo? Lambert and Hanes[2] have shown that the plasma of one species is an excellent medium for the growth *in vitro* of the cells of another, which indicates that the difference is not a simple matter of suitability of nutriment. If the difference depends on a defensive mechanism, the result of the action of a single organ or a special tissue, we should be able to supply this lacking quality by grafting bits of adult organs into the embryo. Under the influence of this idea the following experiments were undertaken.

Chick embryos were inoculated simultaneously with a fragment of a rapidly growing rat sarcoma and a bit of some adult chicken tissue. Both of the implantations were made in the outer membrane, but in different locations. The results have been clear-cut and striking. The various organs and tissues, with two exceptions, have no effect on the growth of the graft of foreign tissue. The kidney, which grows as well as either spleen or bone-marrow, can be grafted side by side with the rat sarcoma and the two intermingle freely without producing any retarding effects on the growth of the rat tissue. A remarkable difference, however, was observed when the chick embryo was provided with a bit of adult chicken spleen. In this case the embryo exhibited a degree of resistance to the growth of the foreign tissue which was as great as that of the adult chicken. Furthermore, it was found that if the rat sarcoma is allowed to become established and to grow actively in the embryo for three or four days, at which period the graft of adult chicken spleen is introduced on the opposite side of the egg to the sarcoma, the latter undergoes a rapid retrogression. Indeed, this process is so rapid in some cases that it progresses to complete absorption within eight or nine days of the introduction of the spleen. The adult bone-marrow was ascertained also to exert a retarding influence on the sarcomatous tissue graft in the embryo, but its action is less marked than that of the spleen.

Whatever the various functions of the spleen may be, these experiments show conclusively that when that organ in the adult state is supplied, the embryo chick otherwise subject to heterotransplantation becomes as resistant as the adult animal to growth of alien tissues. Hence the spleen and, to a less extent, the bone-marrow provide a defensive mechanism that prevents the development of foreign tissues in the chick embryo.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

[1] Murphy, James B.: Transplantation of Malignant Tumors to the Embryos of a Foreign Species, THE JOURNAL A. M. A., Sept. 14, 1912, p. 874; Transplantability of Tissues to the Embryo of Foreign Species, Jour. Exper. Med., 1913, xvii, 482; Proc. New York Path. Soc., 1912, xii, 206.

[2] Lambert, R. A., and Hanes, F. M.: Cultivation of Tissue in Plasma from Alien Species, Jour. Exper. Med., 1911, xiv, 129.

THE HOUSE-FLY AND DIARRHEAL DISEASE AMONG CHILDREN

DONALD B. ARMSTRONG, M.A., M.S., M.D.
Superintendent, Bureau of Public Health and Hygiene, Department of Social Welfare, New York Association for Improving the Condition of the Poor
NEW YORK

The question concerning the relationship of the house-fly to disease is one about which much is said, and at the same time concerning which very little has actually been determined. It is only in a few Southern communities, such as Jacksonville, Fla., Richmond, Va., and Asheville, N. C., that accurate scientific field studies have been made into the problem of disease carriage by these insects. The popular campaign against the house-fly, on the other hand, is almost universal and is just as extensive in the North as in the South, although the few facts known concerning fly transmission were determined under and are largely applicable to Southern conditions. The present study is probably the first definite attempt in this direction in a Northern community.

In this work attention was paid to all forms of morbidity and mortality, but special emphasis was laid on obtaining accurate statistics concerning that group of disturbances with which it is most logical to associate the fly in Northern communities, namely, diarrheal diseases of infants. The results seem to indicate that the fly is a much-neglected factor in the etiology and transmission of summer diarrhea. Greater attention should be given to the elimination of the insect by all those interested in the prevention of infant mortality, and by all, including infant-welfare workers, nurses and physicians, who are in a position to educate the mothers in the necessity of protecting their infants from the ever-present disease carrier.

The work on which this conclusion was based was carried on during the past summer (1913) in the borough of the Bronx, New York City, in a neighborhood inhabited solely by Italians, and presenting the typical conditions associated with overcrowding, filthy streets, refuse-littered vacant lots, waste-strewn roadways, insanitary stables, etc. One area, inhabited by 311 families or 1,725 individuals, and containing a population of 362 children under the age of 5, was selected, and within this area every effort was made to eliminate the house-fly and to break the contact which the insect was supposed to make between filth and food. Another area containing the same number of families, was permitted to pursue its usual insanitary course. Through nurses, supplied by the Bureau of Public Health and Hygiene and by the New York Health Department, careful records of all the facts of morbidity and mortality in the two areas were taken weekly for a period of eight weeks from July 21 to September 13. These findings were later compared and it is on the most *significant* of them—namely, those dealing with diarrheal diseases of infants — that the greatest emphasis should be placed.

The methods of opposing the activity of the house-fly may be briefly outlined. First, an educational campaign was carried on by nurses among the mothers in the first area selected. The oral injunctions of the nurses were supplemented by the distribution at frequent intervals of literature in Italian and English, describing and depicting house-fly dangers. Free tickets were distributed in the block admitting the people to a moving-picture theater near by, where an arrangement was made by which there was displayed for a week the anti-fly picture film. The seventeen hundred doors and windows in the area were carefully screened. Under the auspices of the local Boy Scout organization, large fly-traps were constructed and placed in the courtways, yards and stables.

In so small a number of children the mortality figures will be too few to be of any significance. On the other hand, the results of the work from the standpoint of diarrheal morbidity are striking and significant. It was found, for instance, that there were in the protected area twenty cases of severe diarrheal disturbances in infants under 5 years of age, while among the "outside" infants, in the same age-group, there were fifty-seven similar cases. The ratio here is nearly 1 to 3. It was found further that for the protected area the total days of sickness of diarrheal disease among infants was 273 days, giving an average case duration of 13¾ days. while among the children of the "outside" families the total number of days of sickness was 984, with an average case duration of 16⅓ days, indicating that not only was there more sickness of this character in the uncleaned area, but the lessened resistance of the infants is reflected in the greater severity and protractedness of the cases.

The two areas selected for comparison were decided on originally because they were comparable in practically every particular. Not only was the population the same in number and character, but also the amount of infant-welfare work, limited to the activities of one diet-kitchen, was found to be uniform throughout the two sections. An analysis was made from time to time of other agencies known to be influential in infant welfare, such as methods of feeding, type of milk used, etc. It was found, for instance in one of the studies that of the infants in the protected area 88 were breast-fed and 14 bottle-fed, while among the infants "outside" 85 were breast-fed and 15 bottle-fed—not a sufficient difference to justify the consideration of it as of any marked importance in the morbidity differences. While these separate investigations were carried on, every effort was made to prevent them from being educational campaigns. In so far as it was possible, it was hoped that the differences in morbidity and mortality, should there be any, could, with justice, be accredited to the anti-fly campaign.

While it is believed that the elimination of flies had a great deal to do with the reduction of diarrheal disease among children, there is no doubt that the general sanitary improvement had a decidedly beneficial influence on the general physical welfare of all the people in the district. In the protected area there were 110 cases of sickness recorded; among the "outside" families there was a total of 165 cases. The ratio between the protected area and the unprotected one as regards non-communicable disease was 36 to 40. This leaves a ratio of 74 to 125 in the matter of communicable disease reported for the two districts.

The latter figures, as well as those dealing with diarrheal disease, are subject to the just criticism of having been derived from a small number of people, and from an experiment conducted for only a short period of time. They are, of course, not conclusive evidence, but they are worthy of serious consideration by all those interested in infant welfare. Practical results of the investigation indicate the possibility of immensely improving the sanitary condition of a community by the simple procedure of enforcing those sanitary regulations which have to do with fly-breeding nuisances. The work is of importance because of the direction it should give to further investigations along this line in

Northern cities. The statistical results justify the placing of a greater emphasis on educational work among mothers regarding the dangers of the house-fly in the lives of the infants. This element should become a more important factor in infant-welfare work. It is probable that a similar study on a larger, more comprehensive plan, and covering a longer period of time, will be conducted another summer under the auspices of the Bureau of Public Health and Hygiene of New York City. Until the present results are affirmed or revised by further research, the physicians and public-health workers throughout the country should appraise the facts already ascertained at their full value and utilize this seemingly important factor in the universal effort to improve the welfare of society's potential citizen.

105 East Twenty-Second Street.

THE EFFECTS OF NITROGLYCERIN ON THOSE ENGAGED IN ITS MANUFACTURE [*]

GEORGE E. EBRIGHT, M.D.
SAN FRANCISCO

An examination of the literature for the past twelve years revealed very little regarding the state of health of those who habitually come in contact with nitroglycerin or nitroglycerin products. Through the courtesy of the Dupont Powder Company, I was enabled to make investigations in the company's factory at Hercules, California, and to examine some twenty men employed there.

It is fitting first to consider the physiologic action of the nitrites. They are essentially cardiac depressants. They cause vascular dilatation by paralyzing the vagus centers and the centers for vascular tone. They cause tumultuous action of the heart by relaxing inhibition, lower respiratory action by paralyzing the respiratory muscles and impair the oxygen-carrying power of the blood by converting oxyhemoglobin into methemoglobin. They cause a sensation of heat, a lowering of body temperature, throbbing pain in the head, beating carotids, quickening pulse, flushed face and vertigo. Sugar may be caused to appear in the urine, urination is increased and large quantities of low-gravity urine may be passed.

Laws,[1] in an article on "Nitroglycerin Head," finds that the increased action of the heart is followed by retardation; that the headache may be preceded by complete loss of vision; that nervous manifestations of acute poisoning are sometimes so severe as to amount to acute mania. In a private communication he refers to a man, who, on becoming poisoned, would first complain of a severe headache, then become wild and incoherent, and finally run about shrieking and hitting his head against trees, walls or any other object. It was necessary to restrain him until the attack was over. He tried to establish an immunity to nitroglycerin poisoning by perseverance, but after several trials gave up the attempt. Another patient, a mild-mannered fellow, would become violent, striking at any person or object within reach. Laws further observes that all those who work in nitroglycerin are sooner or later troubled with tachycardia on exertion, and that nitroglycerin is a marked aphrodisiac, most nitroglycerin men having large families.

Observation of the working conditions in the factory at Hercules led me to the following conclusions: Occasionally, among the men who work in the nitroglycerin factory, one will be found who is immune to the ill effects of the drug, but this is so much an exception to the rule that it is safe to say that all persons working in nitroglycerin powder works are acquainted with the very disagreeable experience of the peculiar headaches which characterize acute nitroglycerin poisoning. The degree of exposure to nitroglycerin necessary to produce the headaches varies with the individual, the weather, and the state of immunity. A new man is very susceptible, and warm weather greatly enhances the incidence and severity of the symptoms. After one has worked for three or four days, a comparatively high degree of immunity is established, which persists so long as he remains at his work; nevertheless, should he be exposed to unusually large doses, headaches are likely to occur. This immunity, on the other hand, is rapidly lost, and even after the absence of a couple of days the man, on returning to the works, will experience the usual toxic symptoms. It is a common practice among nitroglycerin workers to place some of the product on their hatbands during periods of absence from the factory, in order to maintain their immunity.

The exposure necessary to produce headaches varies from merely shaking hands with men who have been handling it, to handling of or exposure to large quantities.

A throbbing headache is characteristic. It frequently begins in the forehead and moves to the occipital region, where it remains for from an hour or two to three or four days. It may be associated with a sense of exhilaration at first, but most of the patients are depressed. Restlessness and inability to lie quietly in bed are often present. Many patients cannot sleep, so that the unfortunate victim is doomed to make the best of his pain propped up in bed through a couple of sleepless, restless nights, often with nausea or vomiting, and in severe instances with diarrhea. Maniacal attacks were not called to my attention by the men I examined.

Concerning permanent effects, the general health of the men working in nitroglycerin appeared to be in no way impaired; on the other hand, they were in remarkably good condition. Several factors bore on this result. In the first place, they were selected men chosen for reliability and sobriety, and a bonus system was in vogue for continued good service. On account of the hazard of their occupation, smoking tobacco was not used. With the exception of one case of chronic valvulitis of rheumatic origin, the examination of their hearts showed no abnormalities. The examination of the radial arteries showed no abnormal changes. Blood-pressure ranged within normal limits. There was no evidence of chronic low blood-pressure, and no appreciable relaxation of the arteries or of the capillaries. I found no instances of shortness of breath, nor did Dr. Fernandez, who has charge of the health of the men, notice that it ever occurred. As far as the complexion of the men was concerned, there were no evidences of destructive blood-changes, such as might have been anticipated by constant destruction of oxyhemoglobin. The amount in the system at any one time was too small.

Examination of the urine of nine men revealed no glycosuria. This included one man suffering from nitroglycerin headache. In his case there was no flushing of the skin or relaxation of the radial artery, although he was experiencing throbbing pain in the head, and dizziness and nausea. His systolic blood-pressure was 122 mm. Hg.

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[*] Read before the California State Medical Society, Oakland, Cal., April 16, 1913.

[1] Laws, C. E.: Nitroglycerin Head, The Journal A. M. A., March 5, 1910, p. 793.

Alcohol enhances the toxic symptoms by relaxing the blood-vessels. This is true to the degree that a man who has been exposed to nitroglycerin all day without ill effects may precipitate a severe headache in a very few minutes by taking a cocktail.

As may be readily imagined, the men working in a well-organized factory are protected from certain dangers that may obtain where the personal habits of those employed in the handling of nitroglycerin are not strictly governed. For instance, in the mines of California, where considerable blasting is done, it is generally recognized that so-called powder men are inclined to be irritable and pugnacious, and that it is unsafe to pick a quarrel with them.[2] The explanation of this probably lies in the fact that the toxic action of nitroglycerin is enhanced by the action of alcoholic beverages which are indulged in extensively in mining towns. A case in point came to my notice. A construction foreman, a man employed on account of his expertness in the use of high explosives, was engaged in excavating for the foundations of a bridge. On a certain day this man handled between a ton and a ton and a half of dynamite. He arrived at his lodgings in the evening with a splitting headache. Being advised that whisky would be beneficial for his headache, he indulged freely in that remedy, and within two or three hours had developed an acute mania with homicidal impulses. Before being restrained, he began shooting with a revolver right and left, wounding one of his own friends and killing a bystander.

An interesting description of cordite eating that occurred in the British Army during the Boer War is described by Lieutenant-colonel R. J. S. Simpson, C.M.G., as follows:

> Such a trifling matter as a dearth of matches led to a knowledge of the drug; for the men extracted the cords from the Lee-Metford cartridges to light their pipes and cigarettes with, and found that it affected their heads. Thus it may be supposed the fatal knowledge would arise and spread. The craving for drink, which could not be had on the field, would conduce to the use of the narcotic once it became known. The drug is taken in two or three ways, e.g., eaten solid, boiled down in water or tea, or mixed with beer. In small doses to those not accustomed to its use, or to other narcotics, cordite, like some other drugs, has a by no means pleasant effect, as Major Jennings found to his cost on eating a quarter-stick, by way of experiment. The stuff was sweet in the mouth, but it gave him a "most racking, splitting headache." The habitué is able to take the contents of a cartridge or more. His face flushes, his head throbs and seems to swell, and then in about fifteen minutes comes long sleep. On awakening he has an intense headache, thirst, etc. Taken with beer or hot tea the first effects are wild delirious intoxication, and this is followed by sleep. Morphin, opium and alcohol in small quantities are "pick-me-ups" after cordite, and apparently some men have used cordite as a reviver after alcohol. Optical and mental delusions, timidity, weakness and general breakdown, moral and physical, result from prolonged use of cordite as a drug.

Apropos of the cordite habit, it might be thought that workers in a nitroglycerin factory could possibly become addicted to a nitroglycerin habit. It is only necessary to breathe the atmosphere of a powder factory for a little while to realize that the dread which the workmen have of nitroglycerin headaches precludes any likelihood of the acquiring of a pernicious habit.

On account of the small series of cases taken, a positive statement concerning chronic changes in the cardiovascular system is not permissible, but as far as my observations go, it may be said that no permanent ill effects could be demonstrated. As healthy as any man observed were two, one of whom had been employed eighteen years and the other twenty.

Of acute poisoning, it may be said that in most instances the work of the men is not interrupted, although it may be for a day or two, after which the comparative immunity is established.

209 Post Street.

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[2] Huntington, T. W.: Personal communication.

A CASE OF OXYCEPHALY

IRVING F. STEIN, B.S., M.D.
CHICAGO

This condition, which is also described as *Thurmschädel, Spitzkopf,* acrocephaly, steeple-head, turritum caput or tower-head, and *tête à la Thersite* has received but little attention in the literature. Most of the cases reported, according to Fletcher,[1] who reviewed the literature in 1910, were considered chiefly because of the curious cranial deformity. Fletcher found only between eighty and ninety cases, and since then a few more have been reported by Brav,[2] Almond[3] and von Schevensteen.[4] This condition is probably more common than statistics would have us believe, only the severe cases—those in which there is early and rapid blindness—being usually reported, and those first coming under the notice of the ophthalmologist.

This case is typical of the mild form in which the sight is but little interfered with.

REPORT OF CASE

History.—Miss E. R., aged 19, a Roumanian Jewess who had done office work, entered the medical ward on the service of Dr. Arthur R. Edwards in November, 1912, complaining of palpitation, shortness of breath, dry cough and severe headaches. Patient stated that she had had some precordial distress as long as she could remember, but that the symptoms had not been severe enough to keep her in bed until the past few weeks. Palpitation and shortness of breath were marked on slightest exertion, being caused even by turning in bed. Precordial pain and dizziness were often present also. The cough, which had been present for four or five weeks, had never been productive of sputum, but had caused the patient to vomit occasionally. There had been no hemoptysis. The appetite was poor and bowels slightly constipated. There was no gastric distress. Headaches had always been troublesome, but more severe in the past weeks, being usually on the left side of the head and behind the eyes, and of a throbbing nature. The eyes had always been large, and the patient did not believe they were becoming more prominent. Patient had been wearing glasses for astigmatism, and there had been no appreciable difference in vision in the past few years. Weakness was very marked and often came in spells; the patient was also subject to spontaneous crying spells and nervous fits. There were no night sweats, no fever, and no urinary or menstrual complaint. The patient had been subject to frequent attacks of tonsillitis, but had never had scarlet fever, rheumatism or chorea. She was a patient in the Michael Reese Hospital in 1908 with heart disease and nervous fits which were called hysteria. The father was a patient in the Michael Reese Hospital in September, 1912, when he gave a history of lues, but Wassermann tests made on both his blood and cerebrospinal fluid were negative. The mother died of tuberculosis. There were no brothers or sisters.

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[1] Fletcher, H. Morley: Quart. Jour. Med., 1910-1911, iv, 435; abstr., The Journal A. M. A., June 3, p. 1688.

[2] Brav: Ann. Ophth., 1912, xxi, 1.

[3] Almond: Alienist and Neurol., 1910, xxxi, 487.

[4] Von Schevensteen: Ann. Soc. de méd. d'Anvers, 1911, lxxiii, 102

Physical Examination.—The general appearance was that of a dark-complexioned young (white) woman with black curly hair and large bulging eyes, lying quietly in bed in no apparent urgent distress. Hair and scalp were negative. The cranium was long in the vertical, and narrow in the anteroposterior and transverse diameters, with a prominence at the bregma. The ears were negative. The nose, except for a slight deviation to the right, was negative. The eyes were very large and prominent. The palpebral fissure was wide. There was no von Graefe sign. The pupils were equal and regular and reacted to light and in accommodation. There was no nystagmus, but a slight external divergent squint with some limitation of motion of the eyeball to the left. Sclerae and conjunctivae were clear. The teeth were in good condition, the tongue clean and moist. The hard palate was narrow and highly arched. The pharynx was negative. The neck was negative as regards adenopathy, goiter or abnormal pulsations. The chest was symmetrical and expansion was equal on inspiration. Breasts were well developed, equal in size, and contained no masses. The lungs were negative except for a slight impairment of resonance with increased tactile fremitus in the left apex. There were no râles or rubs.

Heart: The apex impulse was visible in the fifth left costal interspace just outside of the nipple line. The heartbeat was palpable as a short, sharp snap at the apex and a distinct throb at the pulmonic area. To percussion the heart dulness extended from the third left interspace above, 3 cm. to the right and 12 cm. to the left of the midsternal line. On auscultation a distinct presystolic murmur was heard leading up to a loud, sharp first tone at the apex, and over the pulmonic area the second tone was markedly accentuated.

Examination of the abdomen, extremities and genitalia was entirely negative.

The blood examination on admission gave: hemoglobin, 72 per cent. (Sahli); red blood-cells, 4,000,000; white blood-cells, 7,400; differential count: 83 neutrophils, 12 small mononuclears, 3 large mononuclears, 1 eosinophil and 1 basophil by the skeleton stain; blood-pressure, right 115, left 110. Wassermann reaction was negative.

Urine examination was negative for albumin, casts and blood. The urine was acid, specific gravity 1.023.

The eye-grounds were examined by Dr. Mortimer Frank, after dilatation of the pupils with homatropin, and the fundi reported negative.

The roentgenogram showed the typical dimpling of the inner table of the skull which Fletcher and others have described as characteristic of oxycephaly and hydrocephalus.

The cardiac complaint—a pure mitral stenosis—brought the patient to the hospital, and is in no way connected with the condition reported.

There was a marked resemblance to the other cases reported. The shape of the head, prominence and size of the eyes, slightly deviated nose, high arched palate, intense headaches, "nervous fits" (which were previously ascribed to hysteria by former medical attendants) and characteristic dimpling of the inner table of the skull, as shown in the ronetgenogram, establish the diagnosis of oxycephaly in this case. In this, as in other reported cases, the intelligence is not impaired.

Michael Reese Hospital.

Effective Functioning of Health Departments.—The safeguarding of the public health is the function of health departments. As we equip these departments with men and means to carry on the work, so do we make community health more assured and life more secure.—*Bull. Chicago School of Sanitary Instruction.*

STRANGULATED FEMORAL HERNIA IN A PATIENT AGED 83

Walter W. Mott, A.B., M.D., White Plains, N. Y.

The case I shall report is of interest because of the few successful cases recorded of resection of the intestine for acute surgical conditions in patients of advanced age. In two cases, one reported by Fiolle[1] of Marseilles and one by Howitt[2] of Guelph, Ontario, the patients, each aged 81, have been the oldest noted in the literature for the past ten years.

History.—The patient, a woman, aged 83, referred by Dr. E. Clark Tracy, had previously enjoyed good health. She had had a reducible inguinal hernia on the left side for some years, but had never noticed any swelling in the right groin. Thirty-six hours before the operation, she began to have cramp-like pains in the abdomen, not localized, and recurring in paroxysms. Vomiting occurred with the onset of the pain, and continued at intervals until the operation. The vomitus was a thin, bile-stained watery mucus, and at no time fecal. There was no abdominal rigidity and no evidence of hernial protrusion. An enema was given and returned with fecal matter and flatus. The pain and vomiting were attributed to an indiscretion in diet, in the absence of any physical signs. Finally, on October 11, about thirty-two hours after the onset of symptoms, a small pear-shaped mass was made out in the right femoral region. This proved to be a hernia arising from beneath Poupart's ligament and passing forward and upward. Gentle taxis was tried for ten minutes, but proved unavailing. The patient's general condition was fair, although somewhat weakened from vomiting, and immediate operative interference was decided on. She was accordingly removed to the White Plains Hospital and prepared for operation, a dry shave and iodin being used. Morphin sulphate, ¼ grain, had been given during the preceding twelve hours, and the patient was still partly under its influence.

Operation.—Under local anesthesia (cocain 1:500) a vertical incision was made over the hernial mass, the upper end of the incision extending one-half inch above the lower border of Poupart's ligament and curving slightly outward. A thin-walled loculated sac was found and easily isolated. On opening the sac a small quantity of odorless bloody fluid escaped. The sac was found to contain a mass of omentum the size of a plum, and a loop of ileum about 3 inches long. The intestine was purplish with glistening peritoneal surface. The strangulated omentum was ligated and resected and the femoral ring enlarged enough to permit the pulling down of a larger loop of intestine to relieve the impeded circulation. The intestine at the site of the constriction appeared black and lusterless. No pulse could be felt in the mesenteric vessels supplying the strangulated loop. Hot compresses were applied to the injured intestine and renewed for twenty minutes, in the hope of restoring vitality. At the end of this time the color of most of the loop had improved, but the site of constriction still appeared sphacelous and it was decided to resect. Until this point the patient had had no general anesthetic, but the dragging on the mesentery was causing considerable pain, and light ether anesthesia was begun and continued to the end of the operation. Clamps were applied to healthy gut on either side of the strangulated loop, and a piece of ileum 6 inches long was resected. An end to end anastomosis with sutures was then made, and the united intestine replaced, with some little difficulty, through the femoral ring into the abdominal cavity. Two chromic sutures were placed between the lower border of Poupart's ligament and the pectineal fascia, the neck of the sac being included in these stitches, as it was very friable and not large enough to afford tissue for tying off separately. Several interrupted plain gut sutures were placed in the cribriform and subcutaneous fasciae, and the skin closed without drainage. The patient left the table in fair condition.

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1. Fiolle, J.: Rev. gén. de clin. et de thérap., Dec. 11, 1909, p. 807.

2. Howitt: In the discussion of a paper by J. Y. Brown, Primary Bowel Resection vs. Artificial Anus in the Treatment of Strangulated Hernia, with report of 7 cases, Am. Jour. Obst., November, 1905, No. 2, p. 754.

Post-Operative History.—Colon irrigations were started at once, and nutrient enemas were given, while feedings of water, albumin-water and whey were being slowly increased. Abdominal distention was considerable for several days, and the patient vomited twice, but nothing fecal. The distention was finally overcome by repeated enemas and stupes, together with the colon irrigations. The bowels moved spontaneously on the tenth day and convalescence was uneventful. A small amount of colon bacillus pus was evacuated from the upper angle of the wound, which thereupon healed kindly throughout. The patient was taken out of bed as soon as possible to avoid pulmonary hypostasis and was discharged from the hospital on the twentieth day after the operation. Since then she has been on regular diet, and has a normal bowel movement each day, the latter being assisted by the occasional administration of liquid petrolatum, ½ ounce. There is no abdominal distention and the femoral ring remains firmly closed.

CLINICAL REPORT OF A CASE OF RABIES TREATED WITH NEOSALVARSAN AND QUININ

TOGETHER WITH A CASE OF LYSSOPHOBIA

Miley B. Wesson, B.S., M.D., El Paso, Tex.

The interest aroused by the publications of Tonin,[1] Moon[2] and Harris[3] in the finding of a drug that would act as a specific for rabies warrants the publication of a report of this case, which was treated with both neosalvarsan and quinin.

C. M., Mexican, aged 10, was bitten, July 18, 1913, by a rabid dog, the left forearm and throat being badly lacerated; the wounds were cauterized and dressed daily at the charity clinic. Pasteur treatment was persistently urged but refused. About August 2 the boy became depressed and anxious and told the office girl at the clinic that he knew he was going mad. There were cephalalgia, loss of appetite accompanied by gastric uneasiness and nausea; the patient's mental condition gradually grew worse and at times he was intermittently delirious. I saw him on the morning of August 6; the wounds were healed, but the scars appeared abnormally livid. The patient was restless, breathing was rasping and was frequently interrupted by pharyngeal and respiratory spasms; there was a slight dysphagia. A general hyperesthesia was present with photophobia and intolerance to sound. The eyes reacted to light and accommodation; tendon and skin reflexes were slightly exaggerated; the grip of the left hand was much weaker than that of the right, and when the boy attempted to walk the left leg had a tendency to give way, so that he required support on that side.

I wrapped him in a blanket and carried him to the hospital in an open car (before permission for hospital treatment could be revoked by the family). The jolting of the car, the noises and the sunlight did not seem to bother him—in fact, the novelty of an automobile ride appeared to arouse him. As soon as he reached the hospital, however, he returned to his former lethargic condition.

Following the method of Tonin (who in July, 1912, reported a "hopeless" case of rabies in a 13-year-old child cured following the use of 0.3 gm. of salvarsan, potassium iodid, tepid baths and stimulants) *this patient on admission to the hospital* was given 0.4 gm. neosalvarsan (intravenously), repeated in twenty-four hours. On this day, Moon's report of rabies cured in dogs with quinin by mouth was received. So the patient was given quinin sulphate by mouth (106 grains per day, divided into three doses), and this was continued up to within a few hours of the end. During the course of his illness the temperature ranged from 100.2 to 106.2 F., and pulse from 138 to 170.

Forty hours before death he was unable to swallow egg-nog or other thick liquids, but he could swallow water up to within four hours of his death, though with great difficulty, suffocating pharyngeal spasms occurring after a few swallows. The patient never became violent. Paralysis became general and death took place on the second day, from asphyxia during a slight paroxysm.

In this case neosalvarsan, quinin and other drugs had no influence in checking the advance of the disease or modifying its course in any way, other than possibly controlling convulsions; but if either neosalvarsan or quinin have this property possessed by none of the sedatives, then they are invaluable in the treatment of rabies.

CASE OF LYSSOPHOBIA

Frequently cases of hysteria are diagnosed as hydrophobia, and when recovery occurs the cure is erroneously attributed to the last drug used. The following case is typical:

G. J. B., an Arizona mine-owner, was bitten on the right little finger, Nov. 11, 1913, while asleep, by a "hydrophobia skunk" (a small striped variety of skunk supposed by the cowboys to be always infected with rabies). He developed a pseudohydrophobia on the second day (though he had never seen a case of rabies) and paroxysms were so violent that he had to be restrained by his physician during the two days' trip to El Paso. I saw him Nov. 16, 1913; he was anxious, haggard looking and his eyes fairly blazed; there was difficulty in breathing and dysphagia was so marked that he had been practically without food or drink for two days; he was having frequent convulsions and appeared to have partially lost the use of his limbs. Severe pains radiated from the bitten finger to the back of his head.

Examination, made on admission to hospital, showed that there was no paralysis, the superficial and deep reflexes were normal, and paroxysms, though violent, did not simulate those of rabies. The temperature was 97 F. and the pulse 108. The patient was started on the Pasteur treatment, Negri bodies having been found in the skunk's brain. The convulsions were controlled by morphin, so suggestion instead of quinin or neosalvarsan was used and all symptoms disappeared. The patient was able to leave the hospital on the third day.

A UNIQUE CASE OF BOWEL OBSTRUCTION

W. D. Hamaker, M.D., Meadville, Pa.

History.—Mrs. P., aged 72, a patient of Dr. Best, has had fair health for many years with the exception of obstinate constipation. Nov. 1, 1913, she was seized with severe abdominal pain and nausea. Later on she had considerable distention and great tenderness over the abdomen. The tenderness was general and there was no resistance or tumefaction at any point. November 2 decided symptoms of obstruction showed themselves. High enemas given that day failed to produce much result, except one fairly large stool with some gas. Large doses of calomel and other cathartics had been given previously. Finally fecal vomiting appeared with hiccoughing.

Operation.—November 3 a laparotomy was performed. As the urine was almost entirely suppressed, November 2 and the morning of November 3, chloroform and oxygen were used. A median incision was made and the first thing noticed was a marked distention and congestion of the small intestine. When the hand was passed in, deep in the cavity was found a mass, which, when drawn up, showed a black spot at one end. The mass proved to be Meckel's diverticulum pear-shaped rolled up in one corner or edge of the omentum. The omentum tightly wrapped about and adherent to the diverticulum had produced complete gangrene. The findings, so far, would not account for the obstruction of the bowels and on searching further I found a rent or hole through the upper part of the mesentery through which had passed all of the transverse colon as well as the omentum. There were no adhesions where the colon had passed through the mesentery but the condition appeared to be of long standing. This opening was the size of an egg and after the colon had been drawn up through the opening I closed it. The Meckel's diverticulum and that part of the omentum on which there were gangrenous spots were removed before I replaced the colon.

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[1] Tonin, R.: Policlinico, Rome, July 14, 1912.

[2] Moon, V. H.: Jour. Infect. Dis., 1913, xiii, 1.

[3] Harris, D. L.: A Clinical Report of Seven Cases of Hydrophobia, The Journal A. M. A., Oct. 25, 1913, p. 1511.

Postoperative History.—The patient, although aged, recovered nicely and is now practically well. The temperature before operation ranged from 96.8 to 97.8 F. Since the operation the temperature has never been higher than 99.4 and the pulse has never been above 84.

THE SPONGE COUNT

P. E. Truesdale, M.D., Fall River, Mass.

Few surgeons of large experience have escaped the humiliating experience of leaving a sponge beneath the abdominal incision for a longer period than intended. Even this cautious and fortunate minority have without question been harassed by a late, unnecessary exploration of the abdominal cavity for a missing sponge subsequently found concealed somewhere else in the operating-room. Surgeons now rarely place sponges entirely within the abdominal cavity without attaching a hemostat to the gauze or a connecting strand of tape. This practice is not universal, however, and one finds the system of following up sponges exceedingly varied. In many operating-rooms a nurse, known to be trustworthy, is assigned the responsible duty of guarding laparotomy sponges. She is expected to count her sponges repeatedly for purposes of verification. This entails a loss of considerable time and is not a sufficiently strong insurance for the surgeon against the accident, since there are many instances on record in which the nurse in charge had proved an efficient guardian for many years, and then experienced a single failure. Since the adoption one year ago of a simple method of control worked out by Dr. R. W. French and myself, we have enjoyed a freedom from any embarrassment in the sponge count. We use sponges which measure a yard in length and 2 and 4 inches wide, respectively. To the end of each is securely sewed a piece of narrow tape 8 or 10 inches long. To this the nurse ties a numbered metal check the size of a silver dollar, before the sponge is delivered to the surgeon for use. Thus it becomes a very simple matter, toward the end of an operation, with the sponges arranged consecutively on a separate table, for the nurse to know that every sponge is in her possession.

Asthmatic Attacks Due to Irritation of Buried Tonsils.—Miss M. F., aged 26, a nurse in one of the hospitals, was sent to me, March 19, 1913. The family history was negative. She had suffered frequent congestion, "colds" and digestive disturbances. Her present trouble commenced about three years ago when she began to suffer from violent asthmatic attacks. These attacks occur both summer and winter, but are worse in the autumn and early winter. She nearly lost consciousness in some of the attacks. She had been treated for asthma with all the ordinary remedies without result. Nothing abnormal was found in the chest or abdomen except slight emphysema. During the attacks typical asthmatic findings were elicited. The urine was normal and vaginal examination showed nothing of note. Examination of the nose showed a quite marked deviation of the septum to the left, but the turbinate was not pressed on. The applicator produced no particular irritation. Examination of the throat showed the tonsils of fair size but diseased and buried. When these were touched with an applicator a violent attack of coughing and sneezing lasting twenty minutes or more occurred. A similar attack recurred the next day when the application was repeated. The next day I removed both tonsils under general anesthesia and the patient has been free from the asthmatic attacks ever since, a period of nearly six months. I believe that a great many cases of "hay-fever" and asthma are due to reflex irritation from the nose, throat or ear. I have never had any other case due to tonsil irritation.—W. T. Patton, M.D., 1109 Maison Blanche Building, New Orleans.

A SIMPLE METHOD OF RECORDING VAGINAL DISCHARGES

Siegfried Figueroa, M.D., Merida, Mexico

Having read with interest Mcfarlane's article[1] on "A Graphic Menstrual Chart," I tried to introduce her method of graphically recording the patient's menstrual history in the gynecologic ward of the Hospital O'Horan of this city, of which I am the surgeon. I soon found that it was difficult to keep a daily record of the menstrual state of all the patients because it was necessary to ink one or more square spaces of each chart every morning. Furthermore only blood, clots and pain could be recorded. Therefore I ventured to formulate another method which would permit at the same time the recording of other vaginal discharges, such as simple leukorrheic, serosanguineous, mucopurulent or watery, in a simpler way.

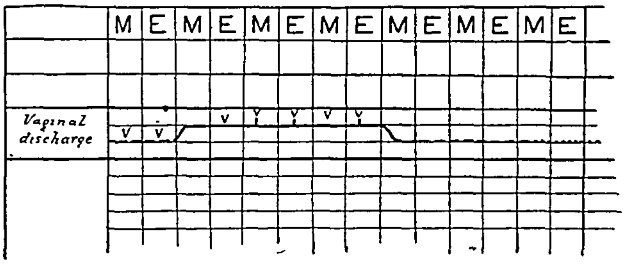

Chart record of a menstrual vaginal discharge indicating a scant serosanguineous discharge accompanied by pain during the first day, a moderate hemorrhagic discharge with pain and clots during the three following days, then a scant serosanguineous discharge beginning in the evening of the fifth day and persisting during the sixth till early in the morning of the seventh, and finally a scant leukorrheic discharge.

To that end I reserved the three spaces corresponding to the one hundred and seventh degree of our temperature chart to the vaginal discharge records. Taking the line of that degree as normal, that is to say, as the point of no discharge whatever, the next line as that corresponding to a scanty flow, the third to a moderate and the last one to an abundant flow, I had under control the amount of the discharge. Its nature I represented in the following fashion: a leukorrheic discharge as a dotted line, a watery discharge as an undulating line, a mucopurulent discharge as a line of alternate dots and dashes, a serosanguineous discharge as an interrupted line and a hemorrhagic discharge as a full line. To indicate clots I used a small perpendicular line falling over the full one representing hemorrhage, and to indicate pain I employed two small converging lines forming an angle just over the line representing the discharge, or alone when there was none. This method has given me perfect and easy control of the genital history of my patients. The accompanying chart illustrates what I have tried to describe.

Calle 59, Numero 488.

Leprosy After Two-Year Incubation Period.—The father of the patient, V. T., now aged 31, Filipino, native of Laguna Province, was admitted to the Culion Leper Colony Aug. 10, 1908, with the clinical diagnosis of tubercular leprosy, microscopically positive. The mother of the patient, G. T., Filipina, now aged 37, native of Bataan Province, was admitted to the Culion Leper Colony Feb. 10, 1910, with the clinical diagnosis of mixed tubercular and anesthetic leprosy, microscopically positive. The patient, a girl born at Culion, May 15, 1911, an inmate of that institution to date, when examined, June 30, 1913, presented no clinical evidences except slight reddening of the cheeks over the malar bones and reddening of the lobes of the ears. Those especially versed in the diagnosis of leprosy would probably regard this reddening as due to leprous dermatitis. Microscopic specimens prepared from scrapings from the cheek and the septum of the nose were positive for leprosy.—Victor G. Heiser, M.D., Director of Health, Philippine Islands, Manila.

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[1] Macfarlane, Catharine: A Graphic Menstrual Chart, The Journal A. M. A., Oct. 12, 1912, p. 1374.

Therapeutics

CALCIUM

This element, owing to recent investigations in physiology and pathology, has become of interest therapeutically. Its relationship to the solid tissues of the body has, of course, long been known, but its relationship to the functions of the body, especially to those of the nervous system, has only of late years been investigated or understood. The young child cannot properly grow and the bones do not normally develop if long deprived of calcium. An adult has various functional, and at times pathologic, disturbances from such deprivation. Again, a person may not be deprived of calcium, but may have such chemical disturbances that he loses calcium more rapidly than he can metabolize it, thus suffering actual deprivation. Certain conditions are immediately improved and may be soon cured by the proper administration of calcium. Therefore, a careful study of this interesting subject is therapeutically pertinent.

We are more and more coming to understand that condition of the body which may be termed a hyperacidity, or at least a lessened alkalinity, especially of the blood. So-called acidemia (perhaps a misnomer, as the blood never reaches the point of acidity before a patient dies) is now known to be the terminal condition of many diseases, and is not limited to diabetic coma. The final serious outcome in persistent vomiting, starvation from any cause, gastric intolerance following surgical operations, the vomiting, diarrhea and marasmus of infants, and perhaps the final disturbances of nephritis, is more or less due to general hyperacidity. Imperfect excretion of acid or acid salts by the kidneys or bowels will probably sooner or later cause serious functional and perhaps organic disturbances, and certainly some degree of denutrition. With such diminished excretion of acids the alkalies of the body are more or less neutralized and lost to the tissues, even if not excessively eliminated. The immediate result of such a diminution of alkaline salts is serious disturbance of the nervous system. Many gastro-intestinal troubles in babies and children are due to an excess of acid and a diminution of alkalies.

The symptoms of such systemic hyperacidity (whatever the disease) are those of fever, that is, increased temperature and pulse-rate, restlessness, insomnia, gastro-intestinal disturbance, and often nausea and vomiting. Gastric tetany seems to be due to the diminished alkalinity of the nerve-cells or nerve-tissue, and it has been pretty conclusively shown that ordinary tetany is due many times to parathyroid disturbance, which is really the result of a calcium insufficiency. The lack of calcium also seems to be in evidence in many instances of infantile convulsions, especially in spasmophilia and acute nervous irritability. It may be a cause of meningismus in typhoid fever or other serious infections, and, perhaps, is one of the causes of epilepsy, or of an epileptic convulsion. Even in puerperal eclampsia when the kidneys are not found seriously insufficient, a considerable diminution of the alkalies, especially of the calcium salts, may be a factor in causing the convulsions.

It need only be suggested that the withholding of starches and carbohydrates and the feeding of meats and such proteins as tend to hyperacidity will always increase the tendency to eclampsia, epilepsy, spasmophilia and convulsions, to say nothing of such acid-producing food as a cause of increased bowel toxemia and more irritation of insufficient kidneys.

Many of the glands which have an internal secretion — the thyroid, parathyroids, ovaries and testicles, pituitary and the thymus in infancy and childhood — seem to take part in normal lime metabolism. The thymus contains a large amount of nucleoprotein and phosphate radicals, and, it would seem, must have a great deal to do with the formation of calcium and phosphate salts for the normal growth of bone. When the child has reached the age of puberty, at which time the largest part of its bone growth has been completed, this gland atrophies, and probably the thyroid assumes, besides its own work, such necessary metabolic work as the thymus has been doing.

The relationship of the pituitary to calcium metabolism has not been determined, but its relationship to enormous bone growth, as in giantism and acromegaly, has been proved, and this extra growth cannot occur without a deposition of an abnormal amount of calcium bone salts.

In excessive activity of the thyroid gland and the disturbances so well recognized as Graves' disease, with its hypernervous excitability, there is always improvement if meats and other acid-forming foods are removed from the dietary, and a quieting effect on the central nervous system and apparently a diminution in the activity of the thyroid gland is produced if calcium salts are given. Whether these salts simply soothe the central nervous system, or whether an excess of them quiets the activity of the thyroid gland, has not been determined. The action noted, however, is a clinical fact.

Ovarian disturbances have seemed to cause a derangement of calcium metabolism. In many instances osteomalacia has been traced to some ovarian disturbance, perhaps a hypersecretion, as such conditions have followed too frequent pregnancies. In some cases the disease has been cured by removal of one or both ovaries.

The relationship of the testicles to calcium is not known, but analogy indicates that they probably take some part in the metabolism of this necessary element. In some animals, from which the testicles have been removed, there has been a retention of phosphates and of lime, and the likelihood of convulsions is less in castrated animals than in those uncastrated, which is one more proof that an excess of calcium in the system seems to inhibit the convulsive irritability of the central nervous system.

The deleterious effect of an excessive amount of magnesium and a deficient amount of calcium in plant life has long been known. In the presence of an excess of magnesium the growth of a plant is slow and imperfect and the plant may die, while with a diminution of the magnesium and the addition of a suitable amount of calcium, the plant will grow normally and vigorously.

It has long been inferred, and has not been experimentally denied, that an acid excess in the system tends to *neuralgias, neuritis and neurasthenic conditions.*

In diabetes mellitus the alkalinity of the blood is known to be greatly diminished. One of the consequences, if the diminution is not sufficient to cause coma, is the production of boils and carbuncles.

PHARMACOLOGY

Lime salts not only form a large portion of the inorganic part of bones and teeth, but they also occur in small amounts (estimated by Schwarz and Bass[1] as 0.01 per cent. of the total amount in the body). According to this estimate, a child weighing 10,000 gm. (about 22 pounds) would have only 0.50 gm. (about 7½ grains) of calcium in its soft parts. It has been found that there is more calcium in the brain before than after birth, and that the amount diminishes as the child grows older. The calcium in the blood has been found highest in the child, and this also decreases slowly with age, being higher in breast-fed than in artificially fed children. Children seem to retain calcium longer than adults, and evidently store it. This also is more in evidence in breast-fed infants than in those who receive cow's milk.

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[1] Schwarz and Bass: Am. Jour. Dis Child., 1912, iii, p. 15.

It has been stated that it may not be the absence of calcium, but the relationship between sodium and calcium salts that allows nervous irritability, as it seems to be a fact that a diminution of sodium salts and an increase of calcium diminishes nervous irritability. In several instances the calcium has been found diminished in the brains of children who had died from tetany.

Even the soluble salts, Cushny states, are absorbed with difficulty, and the calcium salts "precipitate colloids such as proteins, in much more dilute solutions than the alkalies, and the precipitate is not redissolved by dilution with water." While the calcium salts retard the absorption of fluid from the intestines, they still do not cause catharsis as do the magnesium salts. In fact, lime salts are many times constipating.

Like iron, a very small amount of calcium is absorbed in the alimentary canal, the larger portion, whether in the form of soluble or insoluble salts, passing off in the stools. Even a considerable portion of the calcium that is absorbed is excreted by the epithelium of the large intestine and also passes off by the bowels, only a small proportion, in normal conditions, passing off by the urine. L. B. Mendel has shown that the administration of calcium will increase the elimination of magnesium in the urine, and similarly, magnesium, when absorbed, leads to a larger excretion of calcium. The calcium so excreted occurs mostly as a phosphate.

Jacoby and Eisner,[2] in articles on the influence of calcium salts on the kidney, show that in experimental glycosuria in animals the feeding of calcium causes a diminution not only of the sugar output, but also of the nitrogen. In fact, according to Jacoby, all excretion from the kidneys, except water, was diminished by calcium feeding, and later the animals died. An increased amount of calcium in the food or administered as a drug will decrease the phosphates in the urine, and also its acidity.

Eisner found in a number of instances that the feeding of calcium to patients who had nephritis caused serious retention of substances which should be excreted by the kidneys, that not only was the albumin reduced in amount, but also the total nitrogen. He therefore believes that calcium, in any amount, should not be given to nephritic patients.

It has been many times stated that in tuberculosis or in the pretuberculous stage an increased amount of calcium is lost both in the urine and feces. In fact, a demineralization has been thought to be a forerunner of the development of tuberculosis.

While lime is present in so many articles of food that lime starvation is not frequent, unless deliberately planned (it should be recognized that a meat and bread diet may cause lime starvation), still some chemical condition may prevent the lime of the food from metabolizing to its proper usefulness in the body. This same chemical or biologic mistake occurs in chlorosis when a young girl receives food rich in iron and yet becomes anemic. Or, as previously suggested, some internal secretion may be so disturbed as to produce a waste of calcium by causing an increased output of lime from the body. Any such deprivation is of course more serious in infants and young children than later in life.

Though it has been shown that lime is not necessary to the formation of fibrin, the fibrin ferment will not be formed and coagulation of the blood will not occur, except when calcium salts are present. While lime is necessary for the normal coagulability of the blood and to lessen the tendency to hemorrhage, still the administration of lime salts by the mouth will not quickly hasten the normal clotting. Such metabolism is slow and cannot be rapidly pushed by giving large amounts of lime. Von den Velden,[3] however, has recently shown that the administration of calcium lactate (from 4 to 6 gm., or from 1 to 1½ drams a day) for five days or more will stop such bleeding as occurs in scorbutus.

It has been shown that calcium will strengthen a weak heart muscle, and clinically many a weak heart may be made to improve by adding calcium to the medication, when such improvement has not occurred before.

It has long been clinically noted that many children suffering from diarrheas are benefited by small doses of calcium, and it may be true that the acute irritability of the nervous system which we term chorea (whether this disease is or is not caused by an infection similar to acute rheumatism) may be due to an increased loss of calcium by the body. Certainly calcium seems to be of benefit in quieting the nervous system of these patients An enlarged thyroid gland in young girls and women is often reduced to normal size by the administration of small doses of calcium.

LIME IN TUBERCULOSIS

Besides the physiologic determination that there is loss of lime in tuberculous and pretuberculous patients, for perhaps more than fifty years it has been thought that the hypophosphites were of value in pulmonary tuberculosis; that they not only increased the appetite and nutrition, but also aided specifically in the healing of the tuberculous lesions. Chemically, however, it has been shown that the hypophosphites leave the body almost unchanged and non-metabolized. It is supposed that it is the phosphorus element in the hypophosphite combination that is of special value, but if any one of these salts is of value it is the calcium hypophosphite, and the value of even this is doubtful, as the calcium is likely to be precipitated in the intestine as phosphate or carbonate and excreted in the feces.[4]

Calcium phosphate is perhaps the most valuable biologic salt in cellular development, but unfortunately it is not a simple matter to supply a deficiency in this salt, as administration of calcium phosphate as such will generally not be effective. The calcium molecule in whatever form presented must be broken up and rebuilt in the blood and tissue.

Forced feeding of tuberculous patients and the enormous amount of eggs and milk once given such patients are not now considered advisable by a large number of physicians who are specializing in the treatment of pulmonary tuberculosis.

(To be continued)

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[2] Jacoby and Eisner: Ueber die Einwirkung von Kalksalzen auf die Niere, Berl. klin. Wchnschr., July 21, 1913, p. 1339.

[3] Von den Velden, R.: Zur Pharmakotherapie mit anorganischen Kalksalzen, Therap. Monatsh., October, 1913, p. 685.

[4] For a discussion of the hypophosphites, see The Fallacy of Hypophosphite Treatment, THE JOURNAL A. M. A., March 8, 1913, p. 747.

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THE FOOD-VALUE OF FISH AFTER COLD STORAGE

The imperative need of some safe, efficient and hygienic method of conserving putrescible food materials for human consumption at periods long after they leave the source of original production is being more forcibly brought home to American purchasers and producers every year. The suitability of some of the procedures employed has been referred to in The Journal from time to time. The value of desiccation has doubtless been underestimated in many instances in the past,[1] although it has many obvious limitations, such as the alteration of the natural flavor of food products occasioned thereby in some cases and the relative expense of this mode of food preservation in others. Sterilization by heat is applied in many departments of the food industries with eminent success. The use of chemical preservatives has received a wholesome check through the stricter limitations which modern legislation is placing on the introduction of foreign compounds into food products, so that in this direction, too, the prospect of permissible expansion is not promising. Much careful consideration has therefore been directed to the possibilities and the limitations of cold storage as a mode of food preservation, from both the hygienic and the economic point of view.[2]

Although the preservative effect of low temperatures on foodstuffs has long been known, the study of the chemical changes which the products may undergo during prolonged refrigeration has not been vigorously prosecuted until a comparatively recent date. In this work the Federal Bureau of Chemistry has been particularly active, and numerous statistics have been published in regard to the behavior of meats, poultry, eggs, butter, etc., under the varied conditions of cold storage applied in the trade at the present time or proposed for introduction. There are, however, few data available in regard to the effect of cold storage on the chemical composition of the flesh of fish, although this method of preservation has been used longer for fish than for many other foods products now so preserved. The importance of detailed and trustworthy information as to this effect is the more evident in relation to fish because they are commonly recognized to be peculiarly prone to decomposition.

A plant for the freezing of fish by means of salt and ice was established in New York City as early as 1861.[3] The frozen-fish industry in America had its real beginning in the early nineties, but progressed very slowly because of the long-maintained prejudice against cold-stored products and frozen fish in particular. The development of the ammonia process for the production of low temperatures has been one of the chief factors in fostering the cold-storage industry. At present, many varieties of fish are refrigerated. Each firm has its own method of freezing fish, but the general practice seems to be to freeze the fish, dip them in water, and refreeze in order that they may be completely encased in ice. They are then stored at a temperature of — 16 C. (3.2 F.). The coating of ice, which is renewed as occasion requires, prevents loss of water due to surface evaporation.[4]

The outcome of an investigation conducted in the Biochemical Laboratory of Columbia University at the College of Physicians and Surgeons, New York City,[5] on the composition of the flesh of a typical species — flounders — with respect to the possible changes induced by current trade methods is gratifying. We need not review the chemical details and the criteria, such as estimations of alterations in the proportions of nitrogenous constituents, the development of reducing substances, the hydrolytic changes in the fats, etc., which were applied by competent biochemists. Their contention, well justified by the data presented, is that there is no evidence whatever of any depreciation in the nutritive value, or any change in the sanitary character, of the fish at any time during two years of cold storage. The data for the yield of ammonium nitrogen — an especially characteristic indication of microbial changes — showed a constancy that excludes appreciable alteration through bacterial decay, and evidences of autolytic changes were likewise not forthcoming. Even the culinary virtues and palatability of fish kept frozen thus long were not impaired.

Convincing as these studies are of the excellent possibilities of preserving fresh fish by the freezing process, they must not be allowed to disguise the fact that they do not give a clean bill of health to animal tissues removed from cold storage and exposed until sold or even kept iced in a common refrigerator. Neither can spoiled food be adequately preserved by any method. It is unfortunate that the efficiency of useful processes is sometimes impugned by unjustifiable applications of it. This has been true of cold storage.

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[1] The Preservation of Milk by Drying, editorial, The Journal A. M. A., Dec. 20, 1913, p. 2247.

[2] Cold Storage and Health, editorial, The Journal A. M. A., June 29, 1912, p. 2034.

[3] For a discussion of the subject see Loverdo: Le froid artificiel, 1903.

[4] Many of the facts in this review are taken from Smith, C. S.: A Study of the Influence of Cold-Storage Temperatures on the Chemical Composition and Nutritive Value of Fish, Biochem. Bull., 1913, iii, 54.

[5] Perlzweig, W. A., and Gies, W. J.: A Further Study of the Chemical Composition and Nutritive Value of Fish Subjected to Prolonged Periods of Cold Storage, Biochem. Bull., 1913, iii, 69.

A NEW TREATMENT FOR CEREBROSPINAL SYPHILIS, INCLUDING TABES AND PARESIS

While antisyphilitic treatment in the early forms of syphilis of the central nervous system has been as successful as in syphilis in other parts of the body, the later forms as tabes and general paresis have been utterly intractable to antisyphilitic measures. In early tabes an arrest of the progress of the condition might be hoped for, but in paresis the prognosis has been hopeless. A method for successfully treating these forms of syphilis would be an achievement of the first rank in therapy.

The discovery of salvarsan raised hopes that it would be effective in late stages of cerebrospinal syphilis. Its failure to produce results in this condition comparable to those produced in other forms of syphilis contributed support to the belief that these disorders are not syphilitic, but parasyphilitic—a belief already held by many clinicians — and the outlook seemed as hopeless as before. With the demonstration of the *Spirochaeta pallida* within the substance of the central nervous system in tabes and paresis the belief that these are not active syphilitic processes become untenable, and the question again arose why these conditions are so resistant to the usual antisyphilitic treatment. An explanation is offered in the supposition, not unsupported by experimental evidence, that the tissues and fluids of the cerebrospinal organs absorb very little if any of certain substances introduced into the circulating blood. For example, meningitis is not perceptibly benefited by intravenous administration of antimeningococcus serum, while intraspinous injection gives definitely beneficial results. The reason for this was not clear until delicate tests showed that antibodies thus introduced do not appear in the cerebrospinal fluid even though present in abundance in the circulating blood.

That antisyphilitic substances may in a similar way fail to reach the tissues of the brain and cord when introduced in the ordinary manners is not improbable. The injection of salvarsan and neosalvarsan directly into the cerebrospinal canal in animals produced directly harmful results. Swift and Ellis[1] found that when a quantity of blood was withdrawn from the veins an hour or more after injection of salvarsan, the serum separated and heated to 56 C. (132.8 F.) and then injected into the cerebrospinal canal, no ill effects followed, and patients so treated were decidedly benefited. Further reports of a most encouraging nature are found in two articles in this issue of The Journal. Hough presents the results of this treatment in six cases, together with curves representing the cell and globulin content of the cerebrospinal fluid and the Wassermann test on both the serum and cerebrospinal fluid at intervals during the treatment. McCaskey records histories of seven cases similarly treated. Both give details of technic, and both report marked improvement and no ill effects resulting. This method for administering salvarsan at least opens two avenues of attack where one existed before, and the treatment of syphilis of the central nervous system becomes proportionately more hopeful. Reason for hope is the greater as laboratory tests and painstaking clinical methods make early diagnosis possible, enabling treatment to be instituted before degenerative changes in the brain and cord have become advanced. Further reports on the treatment of cerebrospinal syphilis by intraspinous injection of "autoserosalvarsan" will be awaited with eagerness.

"CURE" OF RHEUMATISM AND JOINT-TROUBLE

One of the commonest affections that the physician has to treat is called "rheumatism" by the non-medical and by probably the majority of physicians alike, as the symptoms consist of pains and aches, sometimes rather vague, but often acute and definitely located in or around the joints. Not infrequently a distinct amount of disability goes with the affection; the ordinary use of an arm or a leg is uncomfortable or impossible. The cases occur in all forms and the patients are of all ages, though the condition develops much more commonly beyond middle life than in the earlier years.

These cases, grouped together under a generic term, are usually considered as due directly or indirectly to some disturbance of metabolism, some absorption of toxic material from the intestines or some poisonous substance elaborated in the blood. For a long while it was almost universally agreed that these symptoms were due to the presence of uric acid in the system consequent on a disturbance of nitrogen metabolism. A number of remedies for this condition have been on the market for many years and have obtained a reputation because of the number of cases of this kind in which they were said to cure. The uric acid explanation began to lose its vogue about twenty years ago and now there are few well-informed physicians who accept it as explaining these cases. The remedies directed against uric acid, however, still continue to be used in large quantities, sometimes by old-fashioned physicians, but much more by the laity, which loves to roll under the tongue that delectable morsel of pseudoscience, the term "uric acid diathesis."

As uric acid went out, the question of some other disturbance of nitrogen metabolism took its place. We heard much of the purin bodies and of various disturbances of protein digestion, and, above all, of improper protein absorption, as the source of the symptoms that are so common and form so large a part of the occupation of the general practitioner of medicine. A number of remedies directed particularly to the amelioration of these disturbed conditions and the improvement of the internal nutrition were put on the market. Most of them exhibited evidence of their usefulness by "cures." At present, wide-spread attention is attracted to a whole series of such remedies that are claimed to be almost specific in their action on rheumatic conditions, that is, the pains and aches in the neighborhood of joints supposed to be rheumatic.

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[1] Swift, Homer F., and Ellis, Arthur W. M.: The Treatment of Syphilitic Affections of the Central Nervous System with Especial Reference to the Use of Intraspinous Injections, Arch. Int. Med., September, 1913, p 331.

The most interesting thing about these conditions is the history of their successful treatment, not for a generation or so, but for two or three centuries. Patients complaining of vague pains around joints and in groups of muscles in various parts of the body have supplied a large proportion of the "cures" attributed to remedies and treatments at first heralded as marvelous and later proved ineffective. In its original form the Leyden jar was scarcely more than a toy. In Europe many healers of disease produced wonderful effects with it in just this class of patients, the old persons with chronic diseases of the joints and muscles. A little later, when the first electric machine that would give a continuous series of sparks was invented, this was employed in such cases, with wonderfully good results. Almost needless to say, the physical effect of the electric machine on the human body was so little as to be quite negligible, but it worked a great many cures. A little later in the eighteenth century, Galvani made his demonstration of the twitching of a frog's leg when two metals in contact with each other are applied to the nerve and muscle. His demonstration led to a prolonged scientific discussion as to the relationship between electricity and vital force, with a great deal of emphatic assertion on the part of certain scientists that at last the secret of life had been discovered—we are always discovering the secret of life—and then a new field of therapy was open. Elisha Perkins effected many "cures" by stroking patients with two pieces of metal, which he called "tractors." His expulsion from the medical society of Norwich, Conn., on the ground that there was no value in his tractors only gave the astute Yankee from the Wooden Nutmeg State an opportunity to advertise that the medical profession was jealous of him and wanted to put him out of business for fear he would cure all its patients.

When Father Maximilian Hell, the professor of astronomy at Vienna, became interested in the application of magnets as a new curative agent, the patients under his observation who were "cured" were usually those suffering from vague pains and aches in the neighborhood of joints or in large groups of muscles. His greatest success was with the chronic pain in the back that used to be attributed to kidney disease. It has been well said that except in very acute cases the kidneys give pain only in the newspapers; but the number of remedies, kidney plasters and applications of all kinds as well as internal medication without end that have benefited these pains in the loins is legion. Father Hell made his "cures" by applying magnets shaped like kidneys. Mesmer, pursuing his medical studies in Vienna, was attracted to Father Hell's results, and the consequence was his own development of special methods, including the famous "battery" consisting of bottles filled with iron filings connected by wires and placed beneath the water in a tub from which wires led out to be applied to the patients. The modern Oxydonor and Oxypathor are not more subtle fakes, and, though they have the advantage of a century's development in the art of advertising, they do not seem to be able to report so many "cures" as did that prince of charlatans. Mesmer made very little use of what we call mesmerism, and never produced the hypnotic sleep, but achieved his results by the use of supposedly wonderful physical effects.

When hypnotism began its most recent vogue in the latter part of the nineteenth century, it was taken up by Bernheim of Nancy, because he had seen a patient with sciatica, who for years had been coming to his clinic and for whom little could be done, cured by hypnotism under the care of Liébeault. This led him to study Liébeault's methods, and the Nancy school of hypnotism resulted. It might be added that a great many of the patients who proclaimed themselves benefited under Dowie's care, or cured by poor Schlatter at the end of the nineteenth and the beginning of the twentieth centuries, were sufferers from these chronic painful conditions, usually complaining of vague aches in the neighborhood of joints or in large groups of muscles.

Evidently these patients have always been cured by anything that deeply and favorably affected their minds. It is not that they have no real ailment, but that their consciousness, focused on some slight physical discomfort, has room for little else, and hence keeps them miserable until some distraction is obtained. Such patients go around from physician to physician, apparently benefited temporarily, but not relieved from their aches, and indeed declaring often that it was only their anxiety for a cure that made them think for a time that they were better under the new physician. They help to swell the immense number of persons who go to quacks of all kinds, manipulators, chiropractics and the like, and then proclaim themselves greatly benefited. Evidently there is no class of affections with regard to which more care as to the reporting of "cures" must be exercised than these so-called rheumatic conditions. Manifestly, too, there is nothing that shows the lack of significance of "cures" so much as does this group which has been the subject of "cures" of all kinds for centuries, each "cure" in turn proving after a time to have no physical effect, though at first it seemed to be a wonderful remedy.

NEPHRITIS FROM PROTEIN INTOXICATION

The observation, in cases of protein intoxication, of fever, albuminuria, edema, urticaria and other symptoms of nephritis led Longcope[1] to make clinical and anatomic studies on the course of experimental protein intoxication in animals. The purpose was to determine whether nephritis or other demonstrable injury to the body-cells might in some cases result from repeated anaphylaxis or protein intoxication. Experiments were made on series of animals of different species, including guinea-pigs, cats, rabbits and dogs. The animals were first sensitized by injecting large quantities of foreign protein—in these experiments horse-serum and white of egg—intraperitoneally, intravenously, subcutaneously or by a combination of these routes. About three weeks later the animals were reinjected with such quantities of the foreign protein as to produce severe symptoms of anaphylaxis, but not to cause death. The behavior of the different species of animals was observed to correspond to the symptoms which other observers have described as characteristic of anaphylactic shock. The injections of toxic doses of protein were repeated at short intervals and finally the animal either was given a fatal dose or was killed and necropsy made. The urine following such treatment usually showed albumin, detritus, and hyalin and granular casts. Changes were observed in many organs: The peritoneal and omental tissues were thickened, opaque and whitish, and suggested the occurrence of a chronic inflammatory process. Eosinophilia and the presence of small round cells and fibroblasts were frequently observed. The lungs of the guinea-pigs showed small bronchopneumonic patches and peribronchial infiltration containing many eosinophils. The livers of the rabbits and cats showed areas of periportal necrosis and portal cirrhosis of low grade. Similar areas of necrosis were also observed in the myocardium in each species, but most marked in the rabbits. Scars of healed necroses and sometimes diffuse chronic myocarditis were found. Renal changes, however, were most frequent, occurring in 24 of 29 rabbits, in 7 of 12 cats, in all of 13 guinea-pigs and in 10 of 12 dogs. When the animals died of acute intoxication the parenchyma was the seat of extensive cloudy swelling, congestion and often edema. Sometimes both cortex and medulla showed areas of necrosis in which the cells lining the tubules were desquamated, and the areas surrounded by zones of round-cell infiltration. When the process was more advanced the changes were more extensive, and in addition to the necroses and inflammatory reaction there was a distinct increase of interstitial connective tissue. Often the tubules were atrophied and contained hyalin casts, and some glomeruli showed complete hyalin degeneration. Occasionally there was proliferation of the capsular epithelium and swelling and thickening of the capillary tufts.

The finding of such lesions is definitely characteristic of nephritis in different stages, and Longcope states that the most advanced changes were found in the animals in which the intoxicating injections had been received over the longest periods of time. In order to exclude the possibility that the nephritis was of spontaneous occurrence and not due to the repeated protein intoxication, a large number of untreated animals were examined for similar lesions; also three dogs were tested by comparing a portion of kidney removed by operation after the animal had been sensitized, with a portion taken at necropsy after the dog had recovered from the operation and had received the intoxicating injections of foreign protein. By such tests Longcope was convinced that the nephritis was not of spontaneous occurrence, nor was it due to the process of sensitization.

The experiments are of interest as demonstrating a method by which nephritis may be produced experimentally; but their chief significance lies in the relationship which they so strongly suggest between nephritis and anaphylaxis — that is, parenteral protein intoxication. This, together with the fact that the toxemia of infectious diseases is now regarded as an anaphylactic manifestation, suggests a plausible explanation of the occurrence of nephritis, cirrhosis and other lesions associated with infectious and toxic processes.

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[1] Longcope, Warfield T.: The Production of Experimental Nephritis by Repeated Proteid Intoxication, Jour. Exper. Med., 1913, xviii; 678.

RECENT PITUITARY FINDINGS

Comparative physiology has more than once thrown interesting sidelights on the functions of the human organism. Cushing and Goetsch[1] of the department of surgery in the Harvard Medical School have called attention to the striking fact that the phenomena of hibernation which are regularly observed in certain animals like the woodchuck, strikingly resemble the train of symptoms coupled with retardation of tissue metabolism and with inactivity of the reproductive glands which attends experimental states of hypophyseal deficiency and is equally characteristic of clinical states of hypopituitarism. The more notable of these symptoms are a lowering of body temperature, slowing of pulse and respiration, fall in blood-pressure, and somnolence together with a tendency, in the chronic cases, toward an unusual deposition of fat.

The Boston investigators have now found, in conformity with the foregoing parallelism of symptoms, that in the dormant period of a series of hibernating animals the pituitary gland not only diminishes in size but also undergoes extreme histologic alterations, chiefly evident in the cells of the pars anterior, which completely lose some of their most characteristic differential staining features. At the end of the dormant period the gland enlarges and the cells regain their characteristic staining properties. Cushing and Goetsch remark that on the basis of this observation hibernation may be ascribed to a period of physiologic inactivity, possibly of the entire ductless gland series, but certainly more especially of the pituitary body, not only for the reason that the changes in this structure are particularly apparent, but because deprivation of the secretion of this gland alone of the entire series, is known to produce a train of symptoms comparable to those of hibernation.

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[1] Cushing, H., and Goetsch, E.: Hibernation and the Pituitary Body Proc. Soc. Exper. Biol. and Med., 1913, xi, 25.

In connection with the assumed, and in part demonstrated, relations of the hypophysis to the reproductive glands, further new experimental findings of these well-known investigators of pituitary functions deserve a reference here.[2] They indicate that administration of pituitary extract, and particularly extract of the pars anterior, has a markedly stimulating effect on the growth and development of the reproductive glands in young animals of both sexes, as evidenced by histologic examination. The converse of this is seen clinically in cases of hypopituitarism in man. Furthermore, in the animals investigated, extract of the pars anterior tends to cause early and frequent breeding; whereas the posterior lobe extract has no such effect and, in common with ovarian extracts, apparently does not stimulate sexual development. Observations of this character obviously will help to furnish the scientific basis for a rational correction of defective hypophyseal functioning as well as the intelligent use of extracts of the organs in therapeutic ways.

Current Comment

RADIUM THERAPY IN CARCINOMA

The recent somewhat sensational announcements of the benefits of radium therapy in carcinoma have given rise to renewed hopes which may perhaps be doomed to later disappointment. Very timely is a report by Sparmann[3] concerning the after-history of cancers treated with radium. He discusses fifty-three cases which were reported some time ago. The figures have now been revised to give conditions as they exist to-day. Of the eleven cases previously recorded as improved, three are transferred to the list of cured, two have resumed their malignant course. and two patients are dead. In six cases previously reported as slightly improved, the condition is much aggravated in five. Of a total of fifty-three patients, eleven have died since the treatment; in six the tumor has disappeared; in five the conditions seem improved; in seven the condition is aggravated, and in the others treatment was not continued because the condition of the patients had become worse. These results show that radium is a remedy of use in the treatment of cancer, "but," as Sparmann says, "it is not a sovereign remedy." The radium rays, he continues, sometimes extend beyond the cancer into sound tissue and wreak damage there, and thus are liable to be harmful. In non-operable cases Sparmann sees a use for radium. "It belongs undoubtedly and justly," he says, "to the modern equipment of medical science in its fight against malignant tumors." He concludes, "We shall not win brilliant victories with this new weapon, but it will help us to gain step by step in our persevering and incessant siege of cancer."

RACE BETTERMENT

If it is true, as H. G. Wells makes his hero declare in one of his recent novels, that there is a collective mind apart and distinct from individual intelligence, then it must be admitted that the social intelligence of to-day is concerned as never before with the future and with the good of coming generations. Of this, the Conference on Race Betterment, just held at Battle Creek, Mich., is a striking illustration. Whatever one may think of the individual views expressed, or of the immediate, concrete results of such gatherings, the fact is in itself significant that such a conference, extending over five days and attended by thousands of people. is possible. Never before in the history of civilization have there been so many men and women who were earnestly, sincerely and unselfishly laboring for the general good. One may criticize their reasoning, dissect their statistics or draw from their premises entirely different conclusions, but the important fact remains that such conferences, which are becoming increasingly frequent, would have been impossible and practically inconceivable a generation ago. The pessimist and the critic see in such gatherings only another symptom of universal unrest and discontent. The optimist sees in them faintly foreshadowed the dawning of the age of which Tennyson sang, when each man's good shall be all men's aim. The purpose of the Battle Creek conference, as officially stated, was "to assemble evidence as to the extent to which degenerative tendencies are actively at work in America and to promote agencies for race betterment." Under the first head were papers on apparent increase in degenerative diseases, the causes of the declining birth-rate, crime, deterioration of civilized women, factory degeneration, alcohol and tobacco, social evil, and delinquent and defective children. On the constructive side were discussions on eugenics in many of its phases. The program impressed one as being overloaded on the degenerative side — possibly because of an overemphasis of the subject at the present time — and as too much given over to a discussion of the past and present conditions rather than of constructive plans for the future. The general effect left on the mind of the listener was that the many papers and addresses, most of them excellent in themselves, were not correlated and were written often from conflicting, if not contradictory points of view, while many of those in attendance impressed the careful observer as being earnest rather than informed, and zealous rather than discriminating. The impressive, undeniable fact, however, is that they were there. It is possible to-day. for the first time in the history of civilization. to call and to hold a conference to discuss not time-worn dogmas or even present-day needs, but future possibilities. From this point of view, such conferences must command the careful attention of the student of social development.

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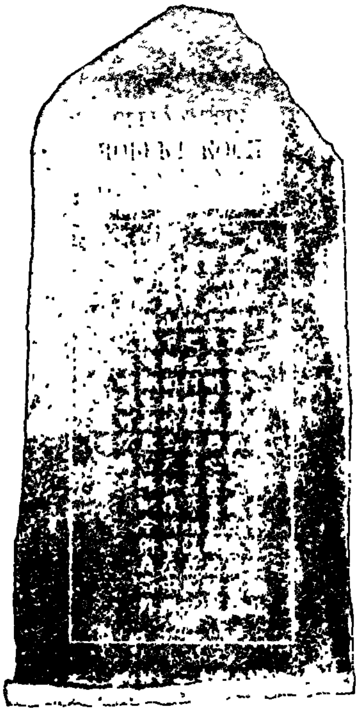
[2] Goetsch, E., and Cushing, H.: The Pars Anterior and Its Relation to the Reproductive Glands, Proc. Soc. Exper. Biol. and Med., 1913, xi, 26.

[3] Sparmann: Wien. klin. Wchnschr.. 1913. xxvi. 2072.

A MONUMENT TO KOCH IN JAPAN

Recently in Berlin there was held a silent memorial to Robert Koch on the day when he would have attained his seventieth year. Such a memorial is significant of the great love which the German people have for this noted scientist. Equally significant is the erection of a monument to the great benefactor at a spot in Japan to which Koch often went to enjoy the view. The monument, which we reproduce,[1] and the language on it, are typically Japanese. The translation by Mrs. Koch of the Japanese inscription describes best the circumstances of its erection. At the top is the inscription in German: "A Monument to Robert Koch, whose favorite resting-place this was." The longer inscription in Japanese reads as follows:



Monument erected to Koch in Kamakura.

> In the forty-second year of the reign of Meidji, in the seventh month, the great German physician and teacher, Koch, professor in Berlin, came to Kamakura. He pitched his tent here on the Mountain of Spirits and morning and evening he walked about with Professor Kitasato to enjoy the beauty of the mountain and the temple. After a time he returned to his western home where he died soon after. The owner of the mountain has joined with others in erecting this monument in commemoration of Koch's beloved spot. This place was chosen around which the waves of the sea dash and storm, and above which gleams the snow-white peak of Fuji-no-yama, already renowned in older times through the great battle of the famous Japanese hero, General Nitta. Here, by Inamura-saki, he cast his sword into the sea, and hither came the great man from across the ocean, looked across to Fuji and loved the place. Therefore, let this stone remain here as a lasting memorial. Written in the first year of the reign of Taisho, in the ninth month, by Nagasaka-Shuki.

RACE SUICIDE

The lowering of the birth-rate in certain foreign countries is giving rise to various schemes for increasing the size of families. It has been suggested in France that all estates be divided into at least four parts. If the family has sufficient children, each child would receive a portion; if not, the unused portions would be taken by the state. It has also been suggested that large families be exempt from taxation. Now the suggestion is made[1] that the head of each household be entitled to as many votes as there are members of his family: the bachelor one, the childless husband two and the procreative parent three, four or twelve as the case may be. This scheme, it is thought, would probably be effectual. By their voting power, large families would then control taxation and the government, and in time become a lever to adjust the balance of political power. Ultimately there would come a modification of the attitude of the people toward reproduction and child-bearing which would lead to larger families. The imaginative mind can picture a future scene in which the corpulent ward-heeler will lead a proud father to the polls to cast fifteen or twenty votes for a favorite measure, the evidence of his right to do so following happily in the rear, or playing tag around the voting booth.

PHYSICIANS AND CLEANLINESS

In an article in the *Southern Medical Journal,* an abstract of which appears in this issue,[2] Dr. Charles Wardell Stiles severely criticizes certain physicians with whom he has come in contact for a want of cleanliness in their offices, and for lack of careful observance of the rules of general hygiene. He says that inasmuch as physicians constantly advocate health legislation, they should be prepared to set a proper example of cleanliness for the laity. His contention is supported by numerous instances, which he cites, of the shortcomings of physicians in this respect in connection with their offices, their homes and their conduct in public meetings. Stiles' experience is no doubt unusual and his criticism is probably applicable only to the careless few. It is true, however, that physicians should set an example for the public in hygienic matters, and that they should be almost overscrupulously clean for the added reason of safety to their patients. This severe castigation of physicians is valuable therefore in calling again to the attention of physicians the importance of strict personal and practical cleanliness as an aid and example for the public.

Medical News

ILLINOIS

Personal.—Dr. Simon P. Brown, one of the oldest practitioners of Elgin, is reported to be seriously ill at his home. ——Dr. J. Sheldon Clark, Freeport, has returned from Europe.

New Crèche Opened.—The new nursery building of the Bethlehem Crèche at Fifth Avenue and Fifty-Third Street, Chicago, known as the Richard Arthur Wells Memorial, was formally opened with a reception, January 10.

State Board of Health Meeting.—At the annual meeting of the State Board of Health held in Springfield, January 13, the board reorganized, electing Dr. John A. Robison, Chicago, president, as successor to Dr. George W. Webster. The present personnel of the board is as follows: Drs. A. Szwajkart, Chicago; R. D. Luster, Granite City; T. B. Lewis, Hammond;

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[1] Deutsch. med. Wchnschr., 1913, xxxix, 2468.

[1] A Remedy for Depopulation, Brit. Med. Jour., 1913, ii, 1603.

[2] Stiles, C. W.: Southern Med. Jour., December, 1913, p. 783; abstr., THE JOURNAL A. M. A., this issue, p. 237.

John A. Robison, Chicago; James J. Hassett, McLeansboro, and T. O. Freeman, Mattoon.

A Memorial to Christian Fenger.—A recommendation has been made to the Board of Education of Chicago by the Committee on Buildings and Grounds that a new high school building, now in course of construction, be named the Christian Fenger High School. There are, already, two public grade schools which bear the names of Daniel Brainard and N. S. Davis and a magnificent high school which is a memorial to Nicholas Senn. It is probable that the present recommendation will be approved as an appropriate recognition of the work of this great surgeon, and of his influence on pathologic study and the growth of medical education.

National Guard Changes.—Under the provisions of the new War Department circular, the following changes have taken place in the medical corps of the Illinois National Guard: Col. S. C. Stanton, surgeon-general, has been retired at his own request, with the rank of brigadier-general; Lieut.-Col. George Paull Marquis has been retired at his own request, and Major Jacob Frank, secretary to the surgeon-general, has been appointed surgeon-general, with the rank of lieutenant-colonel. As a result of promotional examinations, December 27, Lieuts. Eli B. Moss and Cornelius A. Leenheer, M. C., have been promoted to captains, M. C., assigned to the First Infantry, and Lieut. Elmer M. Eckard, Peoria, has been promoted to captain, M. C., and assigned to the Fifth Infantry.

INDIANA

Antituberculosis Camp to be Moved.—The antituberculosis camp at Pottawottamie Park, conducted there for several years by the Anti-Tuberculosis Association of South Bend, is to be moved this spring to the site of the new Tuberculosis Hospital for St. Joseph County.

Personal.—Dr. Rollin H. Bunch has been installed as mayor of Muncie.——Dr. and Mrs. C. B. Stemen, Fort Wayne, have gone to Florida for the winter.——Dr. Felix G. Thornton, Knightsville, was knocked down by a team of horses, December 31, and seriously injured.——Dr. William Godfrey Wegner, for seven years health commissioner of South Bend, has resigned and been succeeded by Dr. Henry Edmund Vitou.——Dr. A. E. Rumely, La Porte, has resigned as secretary of the M. Rumely Company.

New Officers.—Indianapolis Medical Society, January 6: president, Dr. Thomas B. Eastman; secretary-treasurer, Dr. Alfred Henry.——Wabash County Medical Society at Wabash, January 7: president, Dr. Walter A. Domer; secretary-treasurer, Dr. Lawrence E. Jewett, both of Wabash.——Fulton County Medical Society at Rochester, January 6: president, Dr. Harley W. Taylor; secretary-treasurer, Dr. Earl Waite, both of Rochester.——Jackson County Medical Society at Seymour, January 1: president, Dr. James M. Shields; secretary-treasurer, Dr. L. Butler Hill, both of Seymour.——Adams County Medical Society at Decatur: president, Dr. Marion F. Parrish, Monroe; secretary-treasurer, Dr. Sterling P. Hoffmann, Decatur.——Madison County Medical Society at Anderson, December 30: president, Dr. Stanley C. Newlin, Anderson; secretary-treasurer, Dr. Etta Charles, Alexandria.

MARYLAND

Campaign for Emergency Hospital.—In a seven-day campaign held at Easton for a fund for an emergency hospital, $40,819.38 was realized.

Church Home and Infirmary.—The Church Home and Infirmary has installed a Roentgen ray department and pathologic laboratories at a cost of about $15,000.

Course in Tropical Medicine.—A course in the study of tropical disease was inaugurated at the Johns Hopkins Medical School, January 9, by Dr. A. W. Sellards.

Meetings.—A meeting of the Baltimore Medical Society was held on Friday, December 19, in honor of Dr. Louis McLane Tiffany, and a portrait of Dr. Tiffany was presented to the Medical and Chirurgical Faculty on behalf of his colleagues, pupils and friends. Dr. Samuel C. Chew spoke of Dr. Tiffany as a colleague and friend; Dr. Ridgley B. Warfield, as a teacher, author and man, and Dr. W. S. Halstead on his place in American surgery.——The officers of the Medical and Chirurgical Faculty of Maryland for 1914 are: president, Dr. Randolph Winslow; secretary, Dr. John Ruhräh, and treasurer, Dr. W. S. Gardner.

Health Bureaus.—Announcement was made by Dr. Nathan Gorter at the thirteenth annual banquet of the employees of the Baltimore Health Department, December 30, that the health department would be organized into bureaus, that it may be more effective in preserving the public health. The first bureau was created Jauary 1, is known as the Bureau of Food and Dairy Inspection, and is in charge of Dr. Frederick C. Blanck, the department chemist. The other bureaus are to be those of infectious diseases, plumbing and sanitation, vital statistics and laboratories. Details of these bureaus will not be complete until the health department is installed in its new quarters in the old Polytechnic Building, which is expected to be ready some time in April.

Appointments at Hopkins Hospital.—Announcement was recently made by Dr. Rupert Norton, assistant superintendent of the Johns Hopkins Hospital, that two young physicians, sons of professors of medicine in this country and Europe, had been appointed assistant resident physicians at the hospital. They are Dr. Carl von Noorden, Jr., son of the head of the department of medicine at the University of Vienna, and a native of Frankfort, Germany, who will assist Dr. Lewellys F. Barker, and Dr. George Minot, son of Dr. Charles S. Minot, professor of anatomy at the Harvard Medical School, who has arrived to assist Dr. William H. S. Thayer. The arrival of Dr. von Noorden marks a new system whereby European physicians will be attached to the staff of Hopkins and in turn young physicians of Hopkins will be sent abroad to work at the Universities of Vienna and Berlin and various English and French hospitals.

Personal.—Dr. Samuel T. Nicholson, Jr., superintendent of Sydenham Hospital, Baltimore, has tendered his resignation to take effect March 1.——Dr. David I. Macht, Baltimore, has been reelected president of the Jewish Academicians of Baltimore.——Dr. John D. Cronmiller, Laurel, who has been under treatment at the Maryland University Hospital, Baltimore, has returned home much improved.——Dr. Gerard H. Lebret, Baltimore, has resigned as chief of the resident physicians of St. Luke's Hospital to accept a similar position in Stamford, Conn.——In the case of Mrs. Bertha Stevenson against Dr. Guy L. Hunner, Baltimore, in which negligence after surgical operation was charged, in which a verdict for $1,000 was rendered by the superior court, the court of appeals, in a decision delivered December 3, reversed the judgment of the lower court.——A fire in the office of Dr. Myer W. Aaronson, Baltimore, December 14, caused damages estimated at more than $1,000.——Dr. Charles Bagley, Jr., formerly of Baltimore, who has for the past year been first assistant to Dr. Harvey Cushing, chief surgeon of the Peter Bent Brigham Hospital at Boston, Mass., has returned to Baltimore.

MASSACHUSETTS

Personal.—Dr. Edward O. Otis, senior physician of the tuberculosis department of the Boston Dispensary, has retired from active service and become consulting surgeon.——Dr. Robert W. Lovett has been appointed consulting physician of the orthopedic physicians' department of the dispensary.——Dr. A. Warren Stearns has been appointed physician-in-charge of the department of mental diseases.——Dr. James J. Scannell has been appointed to be director of the bacteriologic department of the Boston Health Department.——Dr. John A. Seconi, Dorchester, has been appointed inspector of contagious diseases of the Boston Board of Health.——Dr. William A. Brooks, surgeon-in-chief at St. Elizabeth's Hospital, has retired.——Dr. Robert D. Hildreth, Westfield, has been appointed assistant medical examiner of Hampden County; Dr. George A. Stickney, Beverly, medical examiner for Essex, and Dr. Edward S. Smith, Westfield, medical examiner for the Western Hampden district.——Dr. William J. Gallivan has been appointed chief of the division of child hygiene of the Boston Board of Health.——Dr. Wallace E. Brown has been reelected mayor of North Adams.

MICHIGAN

Hospital Non-Sectarian.—Grace Hospital, Detroit, has removed sectarian distinctions, and now admits any reputable, competent physician to its staff, regardless of the particular school of medicine with which he may be affiliated.

University Hospital Wants Leper.—Dr. A. S. Warthin, Ann Arbor, has suggested to the State Board of Health that Jake Goldstein, the leper of Benton Harbor, be sent to the University Hospital, Ann Arbor, for isolation and treatment.

Personal.—Henry F. Vaughan has been appointed to succeed William G. Williamson as sanitary engineer of the Detroit Board of Health.——Dr. John L. Burkhart, Big Rapids, has been appointed secretary of the State Board of Health, succeeding Dr. Robert L. Dixon, Lansing, who has been appointed secretary of the State Board of Epilepsy.

Federal Investigation.—The federal investigation of diphtheria and other communicable diseases in Detroit began December 17. Surgeon Joseph Goldberger, U. S. P. H. S., is in charge of the investigation, assisted by a staff of six experts. The Detroit data will be available for use in combating epidemics elsewhere in the United States.

Hospitals to Amalgamate.—An agreement was reached by the trustees of Harper Hospital, Detroit, and those of the Detroit General Hospital looking toward amalgamation of the two institutions. At a joint meeting of the committee, December 15, a resolution was passed declaring it desirable for the two institutions to unite their physical, professional and financial interests under one general organization which is to be known as the Harper General Hospital.

New Officers.—St. Clair County Medical Society at Port Huron: president, Dr. Henri Cote; secretary, Dr. Richard K. Wheeler, both of Port Huron.——Lenawee County Medical Society at Adrian, December 23: president, Dr. Isaac L. Spaulding, Hudson; secretary-treasurer, Dr. Frank A. Howland, Adrian.——Battle Creek Anti-Tuberculosis Association, December 16: president, W. J. Smith; vice-president, Dr. Albert J. Read; secretary, Miss Mary Anderson.——Gratiot County Medical Society at Alma: president, Dr. Isaac N. Monfort, Ithaca; secretary-treasurer, Dr. Ernest M. H. Heifield, Riverdale.——Ontonagon County Medical Society at Ontonagon: president, Dr. Frank W. McHugh; secretary-treasurer, Dr. John S. Nitterauer, both of Ontonagon.——Emmet County Medical Society at Petoskey: president, Dr. Levi W. Gardner, Harbor Springs.——Kent County Medical Society at Grand Rapids, December 10: president, Dr. Alexander M. Campbell; secretary-treasurer, Dr. Jacob J. Fabian, both of Grand Rapids.——Kalamazoo Academy of Medicine, thirteenth annual meeting, December 9: president, Dr. James E. Maxwell, Decatur; secretary, Dr. Clarke B. Fulkerson, Kalamazoo.

MINNESOTA

Medical Examiners Reappointed.—Announcement is made of the reappointment of Drs. Annah Hurd, Minneapolis, Frank R. Wieser, Windom, and Robert D. Matchan, Minneapolis, as members of the State Board of Medical Examiners for three years.

Sanatorium for Hennepin County.—A committee has been appointed by the Board of Commissioners of Hennepin County to select a site for the erection of a county hospital for tuberculosis, to cost $100,000, one-half of which is to be appropriated from the state funds, the remainder to be raised by the county.

State Board May Keep Fees.—In the suit of the state of Minnesota against Dr. W. S. Fullerton, secretary of the State Board of Medical Examiners, regarding approximately $18,000 fees used by the board, and regarded by the attorney-general to belong to the state, the supreme court, on December 26, decided that the State Board is entitled to fees so collected.

St. Paul, Not Minneapolis.—Dr. Howard Lankester, commissioner of health for St. Paul, asks that the statement made in THE JOURNAL of December 13, regarding the first use of the law concerning the removal of tuberculosis patients from homes to hospitals, be corrected, as it was the Health Department of the city of St. Paul, on December 25, which first called into use the law there cited.

New Officers.—Blue Earth County Medical Society at Mankato, December 29: president, Dr. Gerhard A. Dahl; secretary, Dr. Roy N. Andrews, both of Mankato. A resolution was unanimously adopted concerning the contagion, prevention and treatment of tuberculosis and urging the citizens and commissioners of Blue Earth County to erect a sanatorium at the earliest possible date.

Personal.—Dr. William L. Freeman, Foley, is seriously ill at his home with pneumonia.——Dr. Margaret Fleming has resigned as a member of the St. Peters' Hospital staff, to take a similar position at Independence, Iowa.——Dr. John C. Whitacre, St. Paul, sustained several injuries as a result of the overturning of his motor car, December 20.——Dr. Walter Courtney, for twenty-five years chief surgeon of the Northern Pacific System, was guest of honor at a banquet given at Brainerd, December 26, at which appreciative resolutions were adopted and a silver loving-cup was presented.——Dr. David E. Seashore has been elected a member of the Duluth Board of Education to fill the position which Dr. S. H. Boyer resigned.

NEW YORK

Personal.—Dr. William F. Campbell, Brooklyn, president of the Medical Society of the State of New York, was the guest of honor at a banquet given by Dr. Frederick C. Merritt at Sayville, December 30.——Dr. Stephen A. Mayhew, Utica, has been appointed coroner of Oneida County.

Check Child Insurance.—At a recent conference the state department has succeeded in inducing the industrial life insurance companies to eliminate excessive insurance on the lives of children. Although the state law and the police contracts forbid excess insurance, there has been a great deal of this business done.

Alien Insane a State Grievance.—Governor Glynn's message points out the injustice of shouldering the care and maintenance of 9,000 alien insane on New York simply because it is the nation's receiving ground for foreign immigration. He urges that some action be taken in this matter to relieve the state of this burden.

Bill to Stop Mercury Sales.—A bill was introduced into the Senate by Senator Blauvelt on January 6, inserting in the penal law a new section prohibiting the sale of bichlorid of mercury except on the written prescription of a physician. The bill also requires that the drug shall be sold only in the form of green cubes and prohibits the refilling of prescriptions.

The Work against Tuberculosis.—The supervisors of Westchester County have voted to purchase a 225-acre site at North Castle, and to construct a sanatorium, which is to cost $200,000.——The contract for the construction of the Onondaga County Tuberculosis Sanatorium was awarded by the board of supervisors of Syracuse, December 31, for $123,021.——The supervisors of Broome County have voted to take over the sanatorium property of the Binghamton City Hospital, and will build an institution to be used as a tuberculosis sanatorium.

New York City

Harvey Society Lecture.—The seventh Harvey Society lecture will be given January 24 by Prof. Sven G. Hedin, University of Upsala, who will make an address on "Colloidal Reactions and Their Relations to Biology."

Spitzka Dead.—Dr. Edward Charles Spitzka, the noted alienist and specialist on nervous and mental diseases, died at his home in New York City, January 13, from cerebral hemorrhage. An obituary notice will appear in THE JOURNAL, January 24.

Neurologists Elect.—The New York Neurological Society has elected the following officers: president, Dr. Smith Ely Jelliffe; first vice-president, Dr. Edwin G. Zabriskie; corresponding secretary, Dr. J. Ramsey Hunt, and recording secretary, Dr. Charles E. Atwood.

Typhus Ship Comes to Port.—The Fabre liner *Roma* from Marseilles and Italian ports has arrived in this port from Providence, having been ordered here by Surgeon-General Blue, as Providence has not the facilities for caring for typhus and quarantining so large a number of passengers. The 258 steerage passengers from this vessel have been quarantined at Hoffman's Island and the twenty-three who occupied the same section with the typhus patient have been placed in a special isolation ward.

A Good Year for Babies.—The Bureau of Child Hygiene of the Department of Health reports that the total number of deaths of children under 1 year of age in the city last year was 13,772. In 1912, 14,260 died. The infant death-rate in 1912 was 102 per 1,000 births and last year only 98.7. Allowing for the increase in population this means a saving of 1,069 lives. Dr. S. Josephine Baker, chief of the Bureau of Child Hygiene, expressed the opinion that organized parental education carried on by the infant welfare organizations has been responsible in a large measure for this satisfactory showing.

Transfer of Pasteur Clinics.—The administration of the Pasteur treatment for rabies has until Jan. 1, 1914, been carried on at the Research Laboratory and the Brooklyn Borough office. On January 1, this work was transferred to the Bureau of Infectious Diseases, and a daily clinic from 1 to 4 p. m., in Room 802 on the eighth floor of the Department Headquarters, 149 Centre Street, was established. On Sundays and holidays, patients from Manhattan are referred to the Brooklyn clinic, at the Brooklyn Borough office, Flatbush Avenue and Willoughby Street, between the hours of 10 and 12 a. m. A clinic will also be established at the Bronx Borough office in the near future. For the present, cases from the Borough of Queens are referred to the Brooklyn clinic, and cases from the Borough of Richmond, to the Manhattan clinic for treatment.

Physical Examination of Children in Institutions.—In the appropriation for the Division of Child Hygiene for 1913 was included an item of $10,000 to be used for extending the work of the division to the institutions of the city caring for children, thus giving them the same system of physical examination as is provided for the children in the public and parochial schools. There are sixty-three such institutions in New York City and from March 29 to October 18, 14,697 children were examined. Of these 6,486 were found to be normal, while 8,211 were found to be suffering from one or more physical defects. The total number of defects found was 10,884. In general the percentage of defects was about the same as that noted in the children in the public schools, an exception being noted in the case of defective teeth. This defect was found among the institution children in only 38 per cent. of the cases, while among the children in the public and parochial schools 49 per cent. were found to have defective teeth. This was undoubtedly due to the greater attention paid to this subject by the institutions. In October the children were reexamined to ascertain if the treatment provided had had the desired result. It was found at that time that 2,730, or 44 per cent, of the children were entirely cured; 1,868, or 30 per cent., were improved, while 1,593, or 25 per cent., remained unimproved. The percentage cured was remarkable as indicating what could be done even in a brief space of time when it was possible to apply prompt and direct attention to the needs of the children.

NORTH DAKOTA

Tablet Unveiled.—A bronze tablet, presented by the citizens of Valley City in recognition of the success of Dr. Ludwig S. Platou in establishing a pure water-supply for that city, was unveiled January 1 with appropriate ceremonies.

New Hospital for Bismarck.—The sisters of the order of St. Benedict have selected a building site in Bismarck on which to erect a new hospital to be known as St. Alexius' Hospital; the building will cost about $100,000, will consist of a central building and two wings, of brick construction, fireproof throughout, and will accommodate one hundred patients.

New Officers.—Sixth District Medical Society at Bismarck, December 16: president, Dr. Paul F. Rice, Cannon Ball; secretary-treasurer, Dr. William B. Foster, Mandan.——North Dakota Anti-Tuberculosis Association: president, Dr. James Grassick, Grand Forks; secretary, Dr. Fannie Dunn Quain, Bismarck.——Tri-County Medical Society at New Rockford: secretary, Dr. J. Roy Mackenzie, New Rockford.

Personal.—Dr. Julius A. Johnson has closed his hospital at Bottineau and has presented much of the equipment to St. Andrew's Hospital, which recently opened in the city.——In the case of Carrie Lee against Dr. William P. Baldwin, Casselton, in which malpractice was charged, the jury decided in favor of Dr. Baldwin.——Dr. William C. Nichols has been appointed physician of the North Dakota Agricultural College.

PENNSYLVANIA

Refused Charters to Chiropractors.—On January 5 Justice Potter handed down an opinion in the supreme court affirming the order of the common pleas court of Pittsburgh, which denies a charter to chiropractors.

Personal.—Dr. James K. Weaver, Norristown, surgeon-general of the state, was installed as surgeon-general of the Grand Army of the Republic, January 5.——Dr. J. W. McClellan has resigned as member of the staff of the Moses Taylor Hospital, Scranton.——Dr. John G. L. Myers has been elected mayor of Osceola Mills.

Springfield Water Infected.—At a conference held at the Merion Cricket Club, January 9, the officials of the Springfield Water Co. were attacked by the officers of the Board of Health of Lower Merion Township for the presence of typhoid fever bacilli in the water. Several officials were sent by Dr. Samuel Dixon to represent the state and a further conference will be held in Ardmore when Dr. Dixon will be present. Dr. David Wilbur Horn of Bryn Mawr, chemist for the Lower Merion Board of Health, and Dr. B. K. Wilbur, its president, led the attack.

License for Midwives.—The Bureau of Medical Education and Licensure of the State of Pennsylvania, has taken steps to enforce the act passed by the last legislature, which provides for the better protection of the lives and health of newborn children, by regulating the midwifery as performed by midwives in this state. It is the intention of the bureau to follow up every midwife in the community and see that she obtains a state license. All women licensed will be frequently visited, their work inspected and the results of their work carefully noted.

Grade Crossing Deaths.—After the report of Investigator Dohoney on grade crossings in the state, the first of its kind ever made in this state, had been read, the Public Service Commission instructed the investigator to prepare regulations for the safety of travelers over these crossings; 114 steam railroads cross public roads at grade in 11,763 instances and of these 10,144 are unprotected. The necessity for such supervision is emphasized by the following statement of grade crossing accidents in six years:

Year	Killed	Injured
1908	72	299
1909	72	356
1910	86	222
1911	84	252
1912	106	306
1913	111	283
Total	531	1,718

Action on Death of S. Weir Mitchell.—A special meeting of the College of Physicians was called January 6, to take action on the death of Dr. S. Weir Mitchell.——At a meeting of the Philadelphia Neurological Society held in the hall of the College of Physicians Jan. 5, 1914, a committee was appointed consisting of Dr. Charles K. Mills, Dr. F. X. Dercum and Dr. James Hendrie Lloyd to prepare a minute regarding the death of Dr. S. Weir Mitchell, first president of the society. The resolutions express sorrow at the death of Dr. Mitchell, the stimulation of his presence and example and the sense of loss of a valuable adviser, helper and friend.

Remarks relating to Dr. Mitchell's distinguished career and especially his connection with neurology in Philadelphia and in the country at large were made by the president, Dr. George W. Price, and by Drs. Mills, Dercum and Lloyd.

Philadelphia

Personal.—Dr. M. Frazer Percival has succeeded Dr. Charles Lester Leonard, deceased, as roentgenologist of the Philadelphia Polyclinic.——Edward C. Kirk, dean of the Dental School, University of Pennsylvania, has just been elected an honorary member of the National Dental Society of Finland.

Memorial Meeting for Dr. Musson.—A memorial meeting for Dr. Emma E. Musson, clinical professor in otology in the Woman's Medical College of Pennsylvania, who died December 28, was held at the college January 5, by the Alumni Association. Dr. Eleanor C. Jones, president of the association, presided, and the speakers included Dr. Clara Marshall, dean of the faculty, Mrs. Wilfred Lewis, president of the board of corporators, and Drs. E. R. Bundy, Frances Studert and A. H. Goodwin.

Students at Drexel Vaccinated.—On January 9, thirty girls and twenty boys of the Drexel Institute were vaccinated as a result of a small-pox scare which developed in the institution January 8. A student in the Department of Commerce and Finance, who had returned to school after his mother had been stricken with small-pox, was taken to the Municipal Hospital and isolated as a precaution. The house where he was rooming and the boarding house were placed under quarantine until all had been vaccinated.

New Officers.—Northeastern Branch of the Philadelphia County Medical Society: vice-president, Dr. Horatio Pilkington; chairman, Dr. George Hanna; clerk, Francis F. Borzell. ——Philadelphia Pediatric Society: president, Dr. William N. Bradley; secretary-recorder, Dr. Maurice Ostheimer.——College of Physicians of Philadelphia, January 6: president, Dr. James C. Wilson; secretary, Dr. Thomas P. Neilson.——Obstetrical Society of Philadelphia, January 2: president, Dr. George Eraty Shoemaker; secretary, Dr. Edward Schumann.

SOUTH CAROLINA

Doctors' Building for Columbia.—A stock company has been organized in Columbia to erect a building to cost about $150,000, for the especial use of physicians and dentists.

Medical Library for Society.—The municipal council of Columbia has given a room on the second floor of the City Hall to be used as a library for the Greenville County Medical Society.

Public Health Work of State Association.—At a called meeting of the Medical Association of the State of South Carolina held at Columbia, December 16, the association pledged itself to vote for the bill now pending regarding medical inspection in the schools of the state; to work for a state hospital for the insane; to urge the legislature to uphold the appropriation asked for by the State Board of Health; to defend the law requiring the collection of vital statistics in the state, and to ask that the State Board of Health be asked to make an appropriation for a state hospital school for tuberculosis patients in the incipient stages, and for the study of pellagra, and also a hospital for the treatment of that disease.

New Officers.—Laurens County Medical Society at Laurens, December 22: president, Dr. George J. Klugh, Cross Hill; secretary, Dr. Jefferson D. Austin, Clinton.——Columbia Medical Society, December 16: president, Dr. F. Asbury Coward; secretary-treasurer, Dr. Edyth Wellbourne.——Dorchester County Medical Society at St. George, December 8: president, Dr. F. Julian Carroll, Summerville; secretary, Dr. John B. Johnston, St. George.——Saluda County Medical Society at Saluda, December 8: president, Dr. Jonathan D. Waters; secretary-treasurer, Dr. Clough H. Blake, both of Saluda.——Greenwood County Medical Association at Greenwood, December 4: president, Dr. Joseph S. Fauche, Ninety-Six; secretary-treasurer, Dr. John F. Simmons, Greenwood.——Greenville County Medical Society, December 2: president, Dr. Charles O. Bates; secretary, Dr. Samuel G. Glover (reelected), both of Greenville.——Pee Dee Medical Society at Florence, November 24: president, Dr. Julius Alexander Faison, Bennettsville; secretary-treasurer, Dr. Joseph Coke Lawson, Darlington.

SOUTH DAKOTA

New Officers.—Yankton (Eighth District) Medical Society at Yankton, December 15: president, Dr. Charles M. Keeling, Springfield; secretary-treasurer, Dr. James Roane (reelected).——Watertown District Medical Society at Watertown, December 9: president, Dr. Hervey A. Tarbell; secretary, Dr. Stanley B. Dickinson, both of Watertown.——Black Hills Medical Society at Lead: president, Dr. Felix E. Ashcroft, Deadwood; secretary-treasurer, Dr. Frederick W. Minty, Rapid City.

TENNESSEE

Hospital Property Sold.—The property of the Galloway Hospital at Sixteenth Avenue and Division Street, Nashville, has been sold to Drs. Robert O. Tucker and H. R. Sharber, who will build a sanatorium on the site.

Personal.—Dr. John C. Bell has succeeded Dr. Max Goltman, resigned, as superintendent of the Memphis Health Department.——Dr. Cummings Harris has succeeded Dr. Bell as secretary of the Health Department and Dr. Newman Taylor has been appointed City Health Officer.——Dr. H. B. Coyle has been reelected director in the Southern Tennessee Sanitarium Association.——Dr. Vincent A. Biggs, Memphis, has been appointed a member of the State Board of Health, vice Dr. Louis Leroy.——Dr. Z. D. Massey, Sevierville, who was recently operated on for appendicitis, has recovered and has resumed his work as physician at the state prison.——In the case of Dr. L. A. Yarbrough, Covington, against the Second Bank and Trust Company, Memphis, in which $50,000 damages was asked, and it is claimed that the complainant actually suffered a loss of $19,000, a verdict of $4,000 was rendered by the jury, December 1.——Dr. A. S. Newton Dobson, Limestone, is reported to be seriously ill.——At the semi-annual meeting of the State Board of Health held at Nashville recently, Dr. William Litterer was reelected State Bacteriologist.

New Officers.—Hamblen County Medical Society at Morristown, December 22: president, Dr. S. M. Ryburn; secretary-treasurer, Dr. C. F. Carroll, Jr.——Roane County Medical Society at Harriman, December 19: president, Dr. Eugene S. Philips, Rockwood; secretary, Dr. William W. Hill, Harriman.——Memphis and Shelby County Medical Society at Memphis, December 16: president, Dr. Alfred B. DeLoach; secretary, Dr. James L. Andrews.——Wilson County Medical Society at Lebanon, December 12: president, Dr. Jerry James McFarland; secretary, Dr. Byrd S. Rhea.——Tipton County Medical Society, Covington, December 11: president, Dr. T. B. Gassaway, Tabernacle; secretary-treasurer, Dr. L. J. Lindsay, Covington (reelected).——Chattanooga Medical Society, December 5: president Dr. Walter G. Bogart; secretary-treasurer, Dr. G. Victor Williams.——Jefferson County Medical Society at Jefferson City, December 2: president, Dr. B. F. Brown; secretary, Dr. Buford M. Tittsworth, both of Jefferson City.——Maury County Medical Society at Columbia, December 12: president, Dr. Otey James Porter; secretary-treasurer, Dr. P. D. Biddle, Columbia.——Middle-Tennessee Medical Society at Columbia: president, Dr. George E. Hatcher; secretary-treasurer, Dr. Roy W. Billington, Nashville.

UTAH

New Officers.—Weber County Medical Society at Ogden, December 18: president, Dr. Amasa S. Condon; secretary-treasurer, Dr. Carlyle K. MacMurdy, both of Ogden.——Salt Lake County Medical Society at Salt Lake City, December 18: president, Dr. Ernest D. Hammond; secretary, Dr. Robert W. Ashley, both of Salt Lake City.

Personal.—Dr. C. L. Shields has succeeded Dr. Edwin F. Chamberlain as assistant county physician of Salt Lake City.——Dr. David B. Anderson, Salt Lake City, has been appointed a member of the house staff of Mount Sinai Hospital, New York City.——Dr. William T. Cannon, Salt Lake City, fell December 21, dislocating his elbow.——Dr. Jacob D. Harding, Brigham City, has sailed for Europe.

WISCONSIN

Emergency Cases Supplied.—In compliance with the recent law, the railways of the state are supplying first-aid-to-the-injured cases to all trains in the state; in freight trains these cases are carried in the caboose, in passenger trains in the baggage car.

Hospital News.—The first floor of the Beloit Hospital has been converted into offices for the members of the staff of the institution, laboratories, Roentgen ray rooms, etc.; Drs. A. C. Helm and Paul A. Fox are the first physicians to occupy offices in the building.

Personal.—Dr. George R. Ernst has succeeded Dr. Daniel B. Riley as chief of the Blue Mounds Sanatorium.——Dr. Wilhelm F. Becker has been elected president and Dr. Oscar Lotz secretary of the visiting staff of Mercy Hospital, Milwaukee.——Dr. Arthur C. Helm, Beloit, has moved from his offices in the Parker Block, which he has occupied for more than thirty years, to the Beloit Hospital.——Dr. Andrew Uren, physician of the Montreal mine, has been granted leave of absence and sailed with his wife for Europe, January 15.——Lieut. A. W. Geyer, second assistant surgeon of the National Soldiers' Home, Milwaukee, has been transferred as first assistant to the Soldiers' Home at Hampton, Va.

Hospital Notes.—Riverview, the Outagamie County tuberculosis sanatorium, just outside the city limits of Kaukauna, has been accepted by the county and by the state board of control, and is ready to receive patients. There are thirty applications on file. The sanatorium has sixteen individual rooms, and two wards accommodating three patients each, and with the sun porches can receive thirty-four patients.——The city council of Rhinelander has arranged for an isolation hospital to be located near St. Mary's Hospital.——Eau Claire County Tuberculosis Sanatorium opened December 18 with twenty patients. The sanatorium has been completed at a cost of $16,000, the site having been donated by the Eau Claire Tuberculosis Society.

New Officers.—Dunn County Medical Society at Menominee, December 28: president, Dr. Lauritz A. Larsen, Colfax; secretary, Dr. George A. Barker, Menominee.——Rock County Medical Society at Janesville, December 30: president, Dr. John W. Keithley, Beloit; secretary-treasurer, Dr. Fred E. Sutherland, Janesville.——Eau Claire County Medical Society at Eau Claire, December 29: president, Dr. F. S. Cook; secretary-treasurer, Dr. Roy Ernest Mitchell, both of Eau Claire.——Sheboygan County Medical Society at Sheboygan, December 19: president, Dr. John A. Junck; secretary-treasurer, Dr. George Edmund Knauf, both of Sheboygan.——Ashland County Medical Society at Ashland, December 16: president, Dr. William T. Rinehart, Ashland; secretary, Dr. George W. Harrison (both reelected), both of Ashland.——Grant and Crawford Counties Medical Society at Fennimore, December 18: president, Dr. S. Wade Doolittle, Fennimore; secretary, Dr. Mina B. Glasier, Bloomington (reelected).——Marathon County Medical Society at Wausau, December 15: president, Dr. Joseph F. Smith; secretary-treasurer, Dr. Richard W. Jones, both of Wausau.——Douglas County Medical Society at Superior, December 14: president, Dr. Charles M. Gould; secretary-treasurer, Dr. William H. Schnell, both of Superior.——Shawano County Medical Society at Shawano, December 10: president, Dr. William J. Ragan (reelected); secretary-treasurer, Dr. Herbert J. Calkins, both of Shawano.

GENERAL

College Reelects Officers.—At the meeting of the Board of Regents of the American College of Surgeons in New York City, January 9, the officers were reelected.

New Pediatric Officers.—At the recent meeting of the New England Pediatric Society, Dr. Charles A. Pratt, New Bedford, Mass., was elected president; Dr. Lester C. Miller, Worcester, Mass., vice-president and Dr. Fritz B. Talbot, Boston, secretary and treasurer.

Chocolate Ration Barred.—The chocolate emergency ration of the Army, long considered a mainstay, has been discontinued on the advice of an officer of the Agricultural Department, as it is "difficult as to its digestibility, and therefore deleterious to the health of the consumer."

Personal.—Dr. Claude C. Pierce, who resigned as superintendent of the Colon, (C. Z.) Hospital, November 26 last, sailed for the United States, January 1, to resume his duties with the service.——Dr. Roger P. Ames, Puerto Cortez, is reported to be ill with a malignant form of fever.

Bequests and Donations.—The following bequests and donations have recently been announced:

National Jewish Hospital for Consumptives, $350,000 for a new building, a donation from the president, Dr. Samuel Grabfelder, Philadelphia.

Jefferson Hospital, Philadelphia, a fund to be known as the Lucy Henderson foundation, with an income of about $3,500, to be used in studying the cure of cancer with especial reference to radium, the gift of Mrs. Lucy Henderson of New Castle, Pa.

German Hospital, Philadelphia, $5,000 to be used as an endowment for free beds as a memorial to his father, by the will of Hermann Hessenbrook.

To establish a training school for nurses in Jerusalem, $10,000, by wealthy Jews of Pittsburgh.

St. Joseph's Hospital, Philadelphia, $5,000; Sisters of St. Francis, St. Mary's Hospital, $5,000; St. Vincent's Hospital and Maternity Home, $3,000, by the will of Annie Grandon.

Third Warning.—More swindlers are at large, collecting money and taking orders from physicians, than ever before. Letters continue to come in from Ohio, Kentucky, Tennessee and Indiana, reporting calls by individuals traveling under the following names: G. A. Wright and W. J. Havelin, representing themselves as agents of the Co-Operative Publishing Co. of New York City, and Walter Thorne and Herbert Masorn, purporting to be our authorized representatives. These parties seem to be making some very attractive offers as premiums on a year's subscription to The Journal—such as Dorland's Medical Dictionary, "Crocker on Skin," "Osler on Diagnosis and Practice," also 29 volumes of Dumas. Our authorized agents carry with them letters of authority, signed by George H. Simmons and bearing the official seal of the American Medical Association. Pay your money *only* to men who can produce the proper credentials and be cautious of extravagant premium offers. Any information that will help us locate the above and stop this unfortunate misrepresentation will be appreciated.

CANADA

New Officers.—Medicine Hat Medical Society, second annual meeting December 15: president, Dr. Oliver Boyd; secretary-treasurer, Dr. W. J. Knight.

Nurses' Needs.—The Victorian Order of Nurses, Montreal, is endeavoring to raise $25,000 for their increased needs in 1914. Seventy-one graduate nurses are now employed in and around Montreal; and during the last twelve months they made 132,483 visits of which 5,514 were night visits.

Vital Statistics.—Toronto's vital statistics for 1913 were as follows: Births, 14,086; as against 11,100 in 1912; deaths, 6,949, as against 6,313 in 1912; marriages, 6,421 as compared with 6,153 in 1912. All the contagious diseases with the exception of measles and typhoid fever showed a lower death-rate. Fifty-two deaths resulted from typhoid, the same as in 1912.

University Offers First-Year Course.—The University of Alberta is offering this session a first-year course in medicine. Ultimately a five-year course will be established. Dr. Daniel G. Revell is in charge of the department of bacteriology. Two professors in medicine will shortly be appointed, one to anatomy and one to physiology. The laboratories for the second year will be set up and equipped during the present year; and then additional appointment will be made from among the local medical men. The legislature has recently passed an anatomy act to provide dissecting material.

Personal.—Dr. Charles F. Martin, Montreal, is leaving for a trip round the world.——Owing to ill health, Dr. Richard W. Garrett, Kingston, has been compelled to relinquish his professional duties and seek rest and recuperation in a sanatorium.——Col. Guy Carlton Jones, M.D., Ottawa, Director-General of the Canadian Medical Services of Canada, delivered an address at the Academy of Medicine, Toronto, January 6, on "Relation of the Medical Profession to the Defense of the Country."——Dr. James H. Hamilton of Revelstoke, B. C., has gone on a visit to Honolulu.——Dr. Walker, surgeon of the expedition which discovered the fate of Sir John Franklin in 1859, has recently arrived in Victoria, B. C., after an absence of fifty years.——Dr. R. B. Boucher, Winnipeg, has returned after several months at the hospitals of Chicago, New York and Montreal.——Dr. Séraphin Boucher is to succeed Dr. Louis Laberge as *chief of the Health Department of Montreal.*

Hospital News.—A separate hospital for small-pox patients has been secured for Brantford, Ont., at a cost of $5,800.——Winnipeg ratepayers have again rejected a by-law to provide $275,000 for the general hospital of that city.——A four-story hospital is being built by the Dominion Government at the Grosse Isle quarantine station.——Rev. Edwin Herbert Grey, M.D., was tendered a reception in Toronto January 2, prior to his departure to assume the superintendency of the Hugh Waddell Memorial Hospital at Canora, Sask. The hospital cost $25,000 and was a gift of Mrs. Hugh Waddell of Peterborough, Ont., and its work will be among immigrants in the Canadian Northwest.——Toronto physicians made a private inspection of the new Private Building of the Toronto General Hospital on invitation of the board of governors, January 6.——The Toronto General Hospital is inaugurating clinics for the physicians of the city, to be held every Thursday afternoon when members of the staff will exhibit cases from the different wards.——Toronto electors refused to sanction a by-law on January 1, to raise $500,000 for two new hospitals to serve the needs of the eastern and western sections of that city.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 3, 1914.

The National Insurance Act and the Scarcity of Physicians

In a previous letter to The Journal the effect of the *national insurance act in producing* a scarcity of applicants for administrative medical appointments has been shown. The following further facts may be of interest: The act came into force at the beginning of 1913. Then occurred the annual influenza and bronchitis epidemic, and within a few weeks it became exceedingly difficult for a physician to obtain an assistant or a locum-tenens. Before the employment of unqualified assistants was forbidden, qualified assistants could be engaged for $10.50 a week. Now they obtain as much as $36 and $47. These high figures ruled through the holiday season. Even after this period passed the remuneration of assistants had advanced about 25 per cent. A year ago a physician could be obtained for $600 per annum when living with his principal, who provided food and lodging, or for $900 when living "outdoors." Now the rates are $1,000 and $1,250, respectively. The shipping companies have also had considerable difficulty in obtaining surgeons for their vessels. The rate of remuneration has risen from $50 per month to $75 and even $100, with, in addition, the privilege not hitherto accorded except in a few cases of charging fees from first-class passengers. The royal navy is in a similar predicament as there is a serious deficiency in the number of candidates for surgeoncies. In the country also the deficiency is making itself felt. In the outlying district of the highlands physicians tempted by the new opportunities have in many cases resigned their appointments, and successors cannot be found. At least two parishes in the Orkney and Shetland islands have been without physicians for six months and seem likely to remain so unless the state comes to their assistance with a "grant in aid." The situation is remarkable and unprecedented. In the great industrial centers the physicians are enjoying prosperity previously unknown. Meanwhile, curiously enough, the entries at the great medical schools continue to show a falling off.

Increased Dues in the British Medical Association

During the greater part of its career the activities of the British Medical Association have been mainly scientific. The annual meeting and the communications in the *Journal* dealt almost exclusively with scientific subjects. What was called "medical ethics"—the rules which should regulate the action of one physician toward another—were not neglected but, being a comparatively simple and settled subject, did not give rise to much discussion. In recent years, however, the constantly increasing interference of the state in medical work has produced a profound transformation, and the work of the association has become more and more political. About ten years ago a medical secretary with a clerical staff was appointed to organize the profession and deal with what should be more correctly termed medicopolitical than medico-ethical questions. At this time the association was more than paying its way and had accumulated the substantial surplus of $460,000. Though the new departure of the association was attended by increased membership, the expenditure still more rapidly increased Then came the national insurance act, against which the association fought strenuously The result was a still greater expenditure In 1912 there was a deficit of $80 000, due to the acute stage of the struggle with the government The question of increasing the subscription has therefore been considered at a special meeting of the representative body of the association The Chairman of the council moved that the subscription be increased from the present one of $6 to $10 50 It had been said that a good many members would resign but he thought that many were only waiting for an opportunity or excuse to resign, and the association would be better off without some of them Against the increase one representative pointed out that if the association were to do any good it must include practically every physician and therefore should not run the risk of losing members increased membership was far more important than increased revenue It was also unfair to members who would resign if the subscription were increased, as it would be too late for them to send in their resignations for the forthcoming year Another member gave the results of a postal vote taken in the Marylebone division of London He sent out 665 cards and received 388 answers, about 57 per cent Some of these votes were spoiled In favor of the increased subscription there were 146 against 201 — a majority of 64 against. The question was also asked, "Are you willing to remain a member of the association if your subscription be so increased?" The answers were yes, 175, no, 150, doubtful, 20 The motion to increase the subscription was put to the meeting and carried by 131 votes to 42 A number of proposals bearing on the increased subscription was then discussed It was proposed that in order to encourage newly qualified physicians to join the association they should be exempted from the increase for five years In the end a motion was passed instructing the council to draft a by law for submission to the divisions of the association that special consideration should be given to newly registered physicians An Irish representative moved that the increased subscription be increased only in those areas in which medical benefit under the insurance act was in force Ireland wanted to be left out, first, because there was no medical benefit there, and secondly because there was already an Irish Medical Association the dues in which were $5 a year, which was essential for their protection Another Irish member spoke to the contrary and on vote the motion was lost A similar proposal exempting the channel islands, for the same reason, was also lost It was also proposed to exempt naval and military medical officers who spent the greater part of their time abroad, as it had already been decided that the increased dues were not to apply to colonial members of the association (It may be pointed out that in some colonies, for example Australia and New Zealand, the members of the association already pay increased dues of $10 50, half of which go to the funds of the association in London and the other half for the local branch which supplies them with a local journal) The motion to exempt military and naval medical officers was lost.

PROPOSED FIGHTING FUND

A proposal was then brought forward to establish a special fund under the following conditions Membership to be voluntary on the basis of an annual subscription of $21 Of this sum it was proposed to allocate $7 50 per member for local use and $13 50 for central use It was also proposed to appoint seven district medical organizers at $3,000 per annum to preach the gospel of organization The fund was also to provide insurance for medical defense against adverse verdicts in accidents and sickness, and to provide an endowment policy or pension at 65 years of age The proposal was put to the vote and 111 representatives voted for it and 66 against As the requisite two thirds majority was not obtained, the proposal was lost A long discussion then took place with regard to a campaign in favor of such a fund The object of the fund would be to recoup members whose financial position might not be sufficient to enable them to make a stand with the rest of the profession One member did not believe it would ever be possible to prevent a small minority of the profession taking underpaid work Could the men who went on the panel against the declaration of the association be depended on in making a stand in the future? He thought not and that therefore the special fund would be a fiasco It was decided that the council be instructed to consider the whole question and submit it to the divisions in order that it might come before the next annual representative meeting

Measures Against Venereal Diseases in Australia

The appointment of a royal commission on venereal diseases following the recommendation made by the recent International Medical Congress has been reported in a previous letter to The Journal Evidence has been given on the measures adopted by the state in Australia Dr Burnett Ham, who from 1900 until this year was head of the health department in the state of Victoria, described the measures recently taken As a first step syphilis was made a compulsorily notifiable disease in the Melbourne area, though notification was not enforced by penalties and no names were given Physicians were asked to send specimens of the blood for the Wassermann test In the course of a year 5 000 notifications were made and an equal number of blood specimens submitted, 3,500 notifications were made by private physicians, 900 by the Melbourne Hospital and 1,100 by the Eye and Ear Hospital Of the 5,500 Wassermann tests, 1,900 were positive and 400 partial It was calculated that this corresponded to a number of cases equivalent to 0 5 per cent of the population, a figure much lower than had been anticipated At the Eye and Ear Hospital, out of 5 500 patients presenting themselves during a certain period, 75, or 13 6 per cent, gave a partial or positive reaction Statistics furnished by the Women's Hospital showed that 50 per cent of the major operations were performed for conditions due to gonorrhea The government provided free beds for the treatment of these diseases with modern equipment At first there was some difficulty in filling them, but when it became known that the patients would not be dealt with differently from those in other wards a good demand for the beds arose Dr Ham thought that the experiments conducted at Melbourne had led to a greater interest in the subject and to securing early treatment and diagnosis A health bill was at present before the Victoria legislature which contained provision for adequate and gratuitous treatment and for making the transmission knowingly of venereal diseases a penal offense

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan 2, 1914

Localization in the Brain

In recent years, the works of Pierre Marie have shaken the theory of aphasia, which used to be generally considered as connected with the destruction of the third left frontal convolution. Dr R Robinson has just communicated to the Académie des Sciences a case probably unique of its kind which shows the lack of solidity of the theory of cerebral localizations A hemophiliac, aged 62, was wounded in the occiput Slight bleeding followed The accident had been forgotten for a long time when the patient began to have trouble with his sight An oculist found marked stasis of the left papilla The patient's intelligence and memory were slightly affected The patient had no pain His speech was somewhat defective, but that might have been attributed to missing teeth Hearing, taste and touch were almost normal The sight decreased more and more Finally, about a year after the onset of the trouble, he died from an attack of jacksonian epilepsy When the skull was opened, the brain was found much enlarged It weighed about 1,800 gm (nearly 5 pounds) and dilated veins covered the surface on a pale rose colored background An incision in the bulging part released extraordinarily fetid pus When this pus had been evacuated, there remained only a thin shell of cerebral substance The two frontal lobes, the parietals, the temporals, the occipitals, etc, were in great part decayed, notwithstanding which the patient had lived for almost a year without appreciable pathologic phenomena Van Gehuchten recently published reports of one case in which a larger tumor flattened out two frontal lobes in a young man of 27, and another of an immense abscess, which had destroyed the whole left lobe, neither of which gave rise to any symptoms of serious brain lesions

New Medical Review

There are few medical periodicals in France devoted to original research Hence many interesting researches are published under the form of brief notes in the proceedings of scientific societies and consequently without the data necessary for proof This habit of publishing brief notes tends to favor the premature publication of incomplete researches and of hasty conclusions Therefore, a group of physicians of the hospitals and *agrégés* of the Faculté de médecine de Paris have founded a new organ, the *Annales de médecine*, which will appear each month, each number containing about ninety pages This review, published by Masson et Cie, will contain only original papers and a critical review, but no abstracts of current periodicals and no society proceedings

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 27, 1913.

Personal

Professor Gaffky, who has been connected with the Robert Koch Foundation for the Campaign against Tuberculosis since its origin and who now loses his membership in consequence of his resignation from the office, has been chosen to honorary membership in the institution. Heretofore, the only honorary member has been Carnegie, who was elected because of his donation of $125,000 (500,000 marks).

The Insurance Crisis

The negotiations with the insurance societies to which attention was called in the previous letter, which were conducted under the auspices of the government at the instigation of the representatives of the German medical faculties, were concluded on the twenty-third with a favorable settlement. Inasmuch as this involved a compromise for which both parties must usually make sacrifices, a large number of the demands of the German medical profession were not acceded to, and it goes without saying that many physicians have regarded this settlement with mixed feelings. Still I think that the advisory board of the Leipsic League, which will meet at Leipsic at the call of the board of directors, December 28, to make the final decision regarding this matter, will sanction the agreement. For even if the German physicians should stand by one another with complete unanimity and prepare themselves for a long struggle, still it is not to be denied that the material losses which they would suffer on account of the struggle would be very considerable. As soon as a conclusion is reached with regard to this extremely important matter I will let you know the result and the terms of the compact.

Exchange of Surgical Assistants between America and Germany

The long-promised arrangement for an exchange of assistants between the surgical clinics of Johns Hopkins University and of the University of Breslau has been accomplished at last. Privat-Docent Dr. Felix Landois, the assistant of Professor Küttner, goes from Breslau to Baltimore for six months to fill a place as assistant which has been provided for him, while the first assistant of Professor Halsted, Dr. George Heuer, goes to Breslau, to serve in Landois' place.

Comparison of Health Conditions Among Male and Female Teachers at Berlin

Statistics show that in Berlin, notwithstanding the less stringent requirements which are made of the female teachers with reference to the number of hours of work, the feminine teaching force fails much sooner and more frequently than is the case with the men. The result of this condition, aside from other inconveniences, is a greater overwork of the men, who to a certain extent (as is also the case vice versa) have to act as substitutes for the women teachers who are sick. Among 3,579 men teachers in the public schools, only 791 lost time on account of sickness in 1912; nearly as many of the women teachers, namely, 714, were also excused from duty on account of sickness, although their total number was only 1,704. Of the 384 female special teachers, 193 were excused for this cause.

The picture becomes still more unfavorable for the vitality of the women when it is learned how long the sickness lasted. The men teachers were excused on this account for 30,727 days, while the corresponding figure for only half as many women teachers was 35,629 days.

Berlin makes quite extraordinary demands not only on the women but also on the men. Here and there the work is made harder by the agitation which is made by the social democrats against the schools and their teachers. In such cases the maintenance of discipline presents great difficulties; but, in spite of all, the frequent breaking down of women teachers in the Berlin public schools is a serious phenomenon which should concern not only the physicians, but should not remain unnoticed by the leaders of the woman movement. After affections of the organs of respiration, which are in general very frequent (among men 204 and among women 178), nervous diseases rank next. Among the absences for sickness of the 3,579 men teachers, there were 178 on account of nervous affections, while among the 1,704 women teachers, 191 were excused on account of nervous affections.

Marriages

Louis Hopewell Bauer, M.D., M. R. C., U. S. A., Washington, D. C., to Miss Helena Meredith of Jamaica Plain, Mass., December 27.

David Benjamin Tuhloski, M.D., to Miss Mildred B. Chase, both of Brocton, Mass., at Erie, Pa., December 29.

Verne H. Bantleon, M.D., Jr., Kansas City, Kan., to Miss Alma Bell Davis of Hiawatha, Kan., December 30.

Robert Hervey Lafferty, M.D., to Miss Edith Katherine Fry, both of Charlotte, N. C., December 21.

Eugene W. Caldwell, M.D., New York City, to Miss Nellie Perkins of Burlington, Wis., December 25.

Charles Day Shuart, M.D., Brandon, Wis., to Miss Ethel Halsey of Oakfield, Wis., January 1.

Henry P. Bevis, M.D., Arcadia, Fla., to Miss Florence Henshew of Oakland, Fla., December 24.

Roscoe Patrick Cheney, M.D., to Miss Clara Lucile Walsh of Clinton, Iowa, November 27.

John C. Bump, M.D., to Mrs. Leverne Crocker, both of Spokane, Wash., December 28.

Herman L. Wichman, M.D., to Miss Pearl Wilson MacCoy, both of St. Louis, January 3.

Moyer S. Fleisher, M.D., to Miss Adele Levis, both of St. Louis, recently.

Deaths

David W. Steiner, M.D. University of Michigan, Ann Arbor, 1883; a Fellow of the American Medical Association; one of the most prominent practitioners of Allen County, Ohio; vice-president of the local University of Michigan Alumni Association; once president of the Lima Progressive Association; a member of the Board of Trustees of the District Tuberculosis Hospital; formerly president of the Allen County Medical Society and Northwestern Medical Society, and vice-president of the Ohio State Medical Association; died at his home in Lima, December 27, from pneumonia, aged 57. At a meeting of the Allen County Medical Society, January 1, resolutions of sorrow and regret were adopted, and the members of the society and medical profession of Lima and vicinity attended the funeral in a body.

Charles Phelps, M.D. College of Physicians and Surgeons, New York City, 1858; for more than forty years a member of the visiting staff of St. Vincent's and Bellevue hospitals; acting assistant surgeon, U. S. A., during the Civil War; for several terms president of the New York State Medical Association, and twice Health Officer of the Port of New York; died at the home of his son in New York City, December 30, from pneumonia, aged 79.

Emma E. Musson, M.D. Women's Medical College of Pennsylvania, Philadelphia, 1883; a Fellow of the American Medical Association; clinical professor of otology in her Alma Mater; a member of the staff of the Women's Hospital, Women's West Philadelphia Hospital and Amy Barton Dispensary; who had done much research work on bronchoscopy; died at her home in Philadelphia, December 29, from pneumonia, aged 52.

Henry Stier Pole, M.D. Washington University, Baltimore, Md., 1880; a Fellow of the American Medical Association; and a recognized authority on the therapeutic qualities of the waters of Virginia Hot Springs, where he had practiced for forty years; president of the Bath County, Va., National Bank; died at the home of his daughter in Lewisburg, W. Va., December 28, from heart disease, aged 66.

Irving Cornelius Rankin, M.D. University of Pennsylvania, Philadelphia, 1895; a member of the Ohio State Medical Association; gynecologist of the Akron City Hospital, and surgeon to the Northern Ohio Traction Company; for three years city physician; died at his home in Akron, January 1, from nephritis, aged 42.

Zero Marx, M.D. Chicago Homeopathic Medical College, 1894; president of the Zero Marx Sign Company, Chicago; died in St. Mary's Hospital, Rochester, Minn., December 31, from chronic nephritis, aged 67.

Frederick Carl Busch, M.D. University of Buffalo, N. Y., 1897; a Fellow of the American Medical Association; professor of physiology in his Alma Mater, and a member of the staff of the New York State Cancer Laboratory, Buffalo; died in that city, January 3, from malignant disease for which operation had been performed six weeks before without avail, aged 40.

Tertia Claire Wilton Little, M.D. Women's Medical College of Baltimore, 1893; of Letchworth Village, Thiells, N. Y.; formerly assistant physician to the New England Women's Hospital, Boston, and the Massachusetts State Hospital, Taunton; died in the Women's Hospital in the State of New York, New York City, October 25, after a surgical operation.

Daniel P. Deming, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1871; Long Island College Hospital, Brooklyn, 1883; a member of the Michigan State Medical Society; a veteran of the Civil War; proprietor of a hospital in Cass City; died at his home, December 22, from septicemia due to an operation wound, aged 69.

Thomas Ellwood Parker, M.D. Hahnemann Medical College, Philadelphia, 1880; lecturer on pediatrics in the West Jersey Homeopathic Hospital, Camden; secretary of the Board of Education of Woodbury, N. J.; died suddenly at his home in that city, December 29, from cerebral hemorrhage, aged 59.

Ephraim Magoon (license, Missouri, 1893); a veteran of the Civil War; a practitioner of St. Louis for forty-nine years, who fell downstairs at his home, December 2, fracturing the seventh cervical vertebra, died in the St. Louis Mullanphy Hospital, December 29, aged 71.

Francis Reder (license, Illinois, 1877); a practitioner since 1852; for many years a resident of St. Louis, but for the last few months living on a farm at New Athens, Ill.; died in the Deaconess Hospital, St. Louis, December 28, from chronic interstitial nephritis, aged 84.

James Glasgow Haywood, M.D. Memphis Hospital Medical College, 1883; of Brownsville, Tenn.; a practitioner since 1846; a Confederate veteran; at one time president of the Haywood County Medical Society; died in St. Joseph's Hospital, Memphis, December 29, aged 87.

Marshall R. Borst (license, Kansas, 1901); a practitioner for twenty-five years and a member of the Kansas Medical Society; at one time Health Officer of Mitchell County; died at his home in Glen Elder, December 24, from cerebral hemorrhage, aged 58.

Samuel Perkey, M.D. University of Michigan, Ann Arbor, 1862; formerly a practitioner of Eaton County, Michigan; for twenty-five years a member of the medical profession in Chicago; died at his home in Los Angeles, Cal., December 29, aged 73.

Ellsworth Jay Hyatt, M.D. Starling Medical College, Columbus, O., 1888; a practitioner of Nevada since 1906, and a rancher of Rebel Creek; died at the Humboldt County Hospital, Winnemucca, December 20, from cerebral hemorrhage, aged 51.

Sara Thomas Elliott, M.D. College of Physicians and Surgeons, Chicago, 1900; a Fellow of the American Medical Association; of Lake Worth, Florida; died in the Miami City Hospital, November 26, from cerebral hemorrhage, aged 46.

Thomas Lyman Perkins, M.D. Harvard Medical School, 1880; formerly surgeon to the Salem, Mass., Hospital; later a practitioner of Washington, D. C., and Springfield, Ill.; died in his apartment in the latter city, December 26, aged 62.

James Alexander Hutton Curts, M.D. Trinity Medical College, Toronto, 1899; a member of the Medical Society of New Jersey; visiting physician to St. Joseph's Hospital, Paterson; died at his home in that city, December 31, aged 36.

William F. Greene, (license, Arkansas, 1903); a representative to the legislature from Benton County in 1901; formerly a practitioner of Pea Ridge; died at his home in Prairie Grove, December 20, from acute gastritis, aged 57.

Sylvanus Person, M.D. Jefferson Medical College, 1882; a Fellow of the American Medical Association; and a large land owner of Stanton County, Neb.; died at his home in Stanton, December 24, from nephritis, aged 56.

William James McPheeters, M.D. Western Pennsylvania Medical College, Pittsburgh, 1903; of Hookstown, Pa.; died December 11, in Orlando, Fla., where he had gone on account of disease of the lungs, aged 38.

Frederick C. Hageman, M.D. Rush Medical College, 1870; formerly a practitioner of Chicago; died in an infirmary in Mobile, Ala., December 14, aged 69.

Johannes G. Oosterbeck, M.D. Rush Medical College, 1904; formerly of Hysham, Mont.; a member of the staff of Peoria State Hospital for five years; died at the home of his mother in Chicago, January 8, aged 37.

Charles William Stodder, M.D. Tufts College Medical School, Boston, 1898; a Fellow of the American Medical Association; died at his home in Marshfield Hills, December 12, from aneurysm of the aorta, aged 48.

Edgar Patton McCollum, M.D. University of Alabama, Mobile, 1893; a Fellow of the American Medical Association; once mayor of Greensboro, Ala.; died at his home in that city, January 2, aged 41.

John Fry, M.D. Cleveland University of Medicine and Surgery, 1863; College of Physicians and Surgeons of Ontario, 1893; died at his home in Selkirk, Ont., October 2, from senile debility, aged 77.

James Houston, M.D. University of Michigan, Ann Arbor, 1867; state senator from Wayne County from 1883 to 1887; died at his home in Ypsilanti, December 18, from cerebral hemorrhage, aged 81.

Robert Roy Ross, M.D. Trinity Medical College, Toronto, 1889; a member of the Washington State Medical Association; formerly of Nebraska; died at his home in Seattle, December 18, aged 49.

James A. J. McDonald, M.D. Eclectic Medical Institute, Cincinnati, 1883; College of Physicians and Surgeons, San Francisco, 1898; died at his home in San Francisco, December 26, aged 62.

John S. Caulkins (license, Michigan), a member of the Michigan State Medical Society; for sixty-six years a practitioner; died at his home in Thornville, December 29, aged 91.

Thrond J. Eltun, M.D. Hamline University, Minneapolis, 1904; a Fellow of the American Medical Association, of Velva, N. D.; died November 6, from tuberculosis, aged 42.

Amos Henry Elliott, M.D. New York Homeopathic Medical College, New York City, 1888; died at his home in Brooklyn, December 12, from cerebral hemorrhage, aged 73.

Ernest Wuestefeld, M D. Western Reserve University, Cleveland, 1868; a practitioner of Toledo for forty-three years; died at his home in that city, December 24, aged 70.

Robert Henderson McCarty, M.D. Hahnemann Medical College, Philadelphia, 1895; a veteran of the Civil War; died at his home in Roanoke, Va., December 27, aged 72.

Joseph Howard Schenck, M.D. Jefferson Medical College, 1869; of Philadelphia; died at his home in Wynnewood, Pa., December 28, from cerebral hemorrhage, aged 65.

James M. Scott, M.D. University of Virginia, Charlottesville, 1878; a memoer of the Medical Society of Virginia; died at his home in Raccoon Ford, December 29.

Samuel John Davis, M.D. Atlanta (Ga.) Medical College, 1882; for many years a practitioner of Albertville, Ala.; died in Tuscaloosa, about December 17, aged 61.

John S. Walker, M.D. University of Pennsylvania, Philadelphia, 1871; died at his home in Philadelphia, November 14, from valvular heart disease, aged 66.

Noel Gano Mussey, M.D. Medical College of Cincinnati, 1909; of Maineville, Ohio; died at the home of his mother in Glendale, Cincinnati, December 9, aged 38.

Joseph P. Johnson, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1867; died at his home in Hightstown, N. J., December 19, aged 77.

George Wallace Nelson, M.D. Castleton (Vt.) Medical College, 1861; died at his home in Orwell, N. Y., December 15, from cerebral hemorrhage, aged 78.

Andrew Smith (license, Allegheny County, Pa., 1881); for about forty years a practitioner, died at his home in Carnegie, Pa., December 22, aged 78.

James J. Mensch, M.D. Pennsylvania Medical College, Gettysburg, 1856; died at his home in Pennsburg, Pa., about December 13, aged 83.

William T. Durrett, M.D. University of Louisville, 1879; died at his home in Louisville, December 13, from nephritis, aged 58.

George M. Zigler, M.D. Jefferson Medical College, 1897; died at his home in Nicetown, Pa., December 24, from heart disease, aged 52.

Charles M. Vertrees (license, Illinois State Board of Health, 1878); died at his home in Jacksonville, December 22, aged 76.

Hugh Kelly, M.D. Tulane University, New Orleans, 1886; died at his home in New Orleans, December 22, aged 54.

Association News

THE ATLANTIC CITY SESSION

Local Committee of Arrangements

The annual session of the American Medical Association for 1914 will be held at Atlantic City during the fourth week in June. The House of Delegates will convene Monday, June 22, and the Scientific Assembly—the Sections—Tuesday, June 23.

The following are the officers of the local Committee on Arrangements: William Edgar Darnall, chairman; E. C. Chew, treasurer, and Henry T. Harvey, secretary.

The chairmen of subcommittees are:

Finance	George Scott
Entertainment	William J. Carrington
Section Entertainment	W. E. Jonah
Hotels	Thomas D. Taggart
Halls and Meeting-Places	Walt P. Conaway
Section Meetings	Byron G. Davis
Programs	C. Coulter Charlton
Printing	Walter Reynolds
Badges	E. H. Harvey
Scientific Exhibit	I. E. Leonard
Registration	William Martin
Information	Richard Bew
Alumni Entertainments	Joseph C. Marshall
Post-Office and Telephones	C. Garrabrandt
Commercial Exhibit	E. Guion
Ladies Committee	Mrs. E. H. Harvey

Correspondence

The Color of Danger-Signals

To the Editor:—The wide-spread interest in this question, among both the medical profession and the public at large, is my excuse for referring once more to Dr. Patterson's article, which you discussed in an editorial (Nov. 8, 1913, p. 1724). I have also seen comments on the same article in a number of our popular magazines.

To my mind, the arguments advanced by Dr. Patterson for substituting blue and yellow for green and red, as the colors of danger-signals, are not sound when examined from a scientific point of view. Dr. Edmonds answers the question admirably in a way easily understood by any one (THE JOURNAL, Nov. 29, 1913, p. 1999). On a purely scientific basis we can explain why blue and yellow would be extremely poor substitutes for green and red. Ordinary blue glass transmits many red rays besides the blue ones, leaving about 4 per cent. of the naked light behind it to pass through it; while by a glass of fairly pure blue, the luminosity would be reduced to about 2 per cent. This luminosity in foggy weather would be reduced to nothing. A yellow signal would be luminous enough, but under certain atmospheric conditions would appear too much like white.

Green transmits from 10 to 20 per cent. of the luminosity of the light behind it, while red glass also allows about 10 per cent. of the light behind it to pass through. In our days of high speed, both on land and on sea, it is highly necessary to be able to see and distinguish the colors of lights at a distance of several thousand feet. In certain conditions of the atmosphere, blue and yellow cannot be distinguished as such at this distance, and the danger of collisions would be greatly increased if these colors were to be used as signals. The important thing to be considered is this, that the main object is not to use colors which will be most easily distinguished by the comparatively small number of color-blind persons (less than 4 per cent. of the entire population) under the most favorable conditions, but to use such colors as will be most easily seen by the 96 per cent. of normal-sighted persons under the most unfavorable conditions.

This matter is, in fact, only a more conclusive argument for prohibiting color-blind persons from holding any position in which a quick and accurate perception of color is an imperative necessity.

CHARLES P. SMALL, M.D., Chicago.

Blood Transfusion in the Seventeenth Century

To the Editor:—Apropos of Dr. Michael Campbell's
and quotation from Pepys' diary in regard to transfusi
blood (THE JOURNAL, Jan. 10, 1914, p. 147), it may in
readers to have their attention called to an Italian phy
named Francesco Folli. He was born at Poppi in 162
came from a family which was prominent in public a
He practiced medicine for some years at Bibbiena. Th
was called to the court at Florence as physician t
daughter of Cosimo III. Some years later, though st
favor at court, he went to Citerna, where he died in
He was the author of several books, among them "St
medica, nella quale, oltre la medicina infusoria ed altre n
si bilanciano le ragioni favorevoli e la contrarie alla
fusione del sangue" ("Medical Scales, in Which are Bal
besides Subcutaneous Injection Therapy and Other Nov
the Reasons for and against Transfusion of the Bl
published at Florence in 1680. In this he shows hims
be a warm supported of the doctrine of the circulation
blood, which was not completely accepted at this time, a
says that on Aug. 13, 1654, he demonstrated the operati
transfusion of blood, before the Grand Duke Frederick L

I am not familiar with any verification of his statem
having made this demonstration. It is accepted as fact,
ever, and his instruments pictured in a book entitled
di ritratti d'uomini illustri toscani," published at Flore
1766. In "Dictionnaire des sciences médicales, biographie
icale," published at Paris in 1821, C. L. F. Panckoucke, éd
it is stated that "he appears to have been the first t
transfusion, an operation which the formidable acci
caused to be forbidden by the authorities."

ROWLAND COX, JR., M.D., Paterson, N.

Associations of Physicians for the Study of Tubercul

To the Editor:—A study of the existing antituberc
machinery in various cities discloses the absence of s
physicians' associations for the study of the medical si
the problem. The lack of such associations that would
together, at stated intervals, medical men interested i
disease for the purpose of discussing its important p
seems to be a grave omission in the general scheme, con
ing the importance of the medical profession as a fact
the antituberculosis movement, as well as the existence
large number of medical questions pertaining to tuberc
on which the collective judgment of the profession ca
formulated only through continuous discussion and stud

To meet this need, all Chicago physicians connected
tuberculosis sanatoriums, hospitals and dispensaries, as
as medical men interested in the study of the disease
invited, under the auspices of the Chicago Tuberculosis
tute, to a luncheon at the City Club, Feb. 11, 1913, to a
the first meeting of the so-called "Tuberculosis Study Ci
It was planned that the time between 12:15 and 1 o'
be given to the luncheon, and the hour between 1 and
the presentation of some important medical phase of tub
losis by some one who has made a thorough study of it.
success of the first luncheon led to others. The meetings
proved to be exceedingly popular, bringing together fo
first time, at regular intervals, physicians interested in
study of tuberculosis.

The experience of the last ten months has brought ou
following points, which are probably important in conne
with the organization of such associations:

1. Time should not be wasted in preparation of elab
by-laws and constitutions. A man well posted on a ce
phase of the disease should be announced as speaker fo
first meeting. The by-laws may be prepared later.

2. The best time for meetings of physicians is the
hour. Luncheon is served from 12:15 to 1, and the ad
and discussion occupy the time from 1 to 2. Adjourn
should be made promptly at 2. *Meetings should be held*
a month.

3. Written papers should be barred; notes are permis
The subject should be thoroughly handled by a well-posted

We are now in our tenth month of existence and it is evident that our organization has done a great deal of good in the direction of adjusting differences of opinion, stimulating study and bringing closer together the medical men interested in the disease. Attendance at our meetings has averaged from 55 to 85. It may be desirable that the plan we have put in operation in Chicago should be studied by medical men in other cities. A greater adjustment of views of the medical profession on the subject of tuberculosis, and also a further incentive to study of this wide-spread disease, are greatly needed.

The physicians' association should be affiliated with the local antituberculosis organization and through that with the national antituberculosis association.

THEODORE B. SACHS, M.D., Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

STATUTES REGULATING MARRIAGE

To the Editor:—Please give a summary of the recently enacted marriage laws of Wisconsin and Michigan. What other states have passed such laws?

E. J. ANGLE, M.D., Lincoln, Neb.

ANSWER.—The statutes of Michigan provide, in addition to the prohibition within the usual degrees of consanguinity, that "no insane person, idiot, or person who has been afflicted with syphilis or gonorrhea and has not been cured of the same shall be capable of contracting marriage." Any person violating this section shall be guilty of felony, and in all prosecutions under the act the husband shall be examined as a witness against his wife, and a wife shall be examined as a witness against her husband whether they consent to such examination or not. Physicians shall also be compelled to testify as to their knowledge of the conditions of both parties with reference to the diseases named. It is also provided that "no person who has been confined in any public institution or asylum as an epileptic, feeble-minded, imbecile or insane patient shall be capable of contracting marriage without, before the issuance by the county clerk of the license to marry, filing in the office of the said county clerk a verified certificate from two regularly licensed physicians of this state that such person has been completely cured of such insanity, epilepsy, imbecility or feeble-mindedness, and that there is no probability that such person will transmit any of such defects or disabilities to the issue of such marriage." An attempt in the last session of the Michigan legislature to enact a law requiring that all applicants for marriage licenses should present certificates of health from qualified physicians failed of passage.

The new Wisconsin act of Aug. 2, 1913 (effective Jan. 1, 1914), with reference to marriage was discussed in an editorial in THE JOURNAL, Dec. 27, 1913, p. 2306. This is an amendment to marriage laws already on the statute books with reference to the prevention of venereal diseases, and provides that "all male persons making application for license to marry shall at any time within fifteen days prior to such application be examined as to the existence or non-existence in such persons of any venereal disease; and it shall be unlawful for the county clerk to issue any license to marry to any person who fails to present and file with such clerk a certificate setting forth that such person is free from acquired venereal disease so nearly as can be determined by physical examination and by the application of the recognized clinical and laboratory tests of scientific search." The form of the physician's certificate is prescribed and it must be filed with the application for a marriage license. Physicians who make examinations must be duly licensed to practice in the state, be of good moral character and scientific attainments, and shall be at least 30 years of age. The fee allowed by the law for the examination is not to exceed the sum of $3. The county physicians may make such examinations for indigent persons free of charge. In case of dispute in regard to the finding, the state laboratory shall make an examination of material submitted by the first examiner, and the findings of the state laboratory shall be accepted as final with reference to the presence or absence of venereal disease. In case of refusal of a certificate, appeal may be made to the county court. It is also provided that in case a physician makes a false statement in the certificate, he shall be guilty of perjury, and a conviction under this clause of the act shall automatically revoke the license of the physician.

North Dakota also has a law, effective July 1, 1913, requiring the affidavit of at least one duly licensed physician showing that applicants for marriage license are not feeble-minded, imbeciles, epileptics, insane persons, common drunkards, or persons afflicted with pulmonary tuberculosis in its advanced stages, and in addition that the male contracting party is not afflicted with any contagious venereal disease. For making the examination of either party and the affidavit the physician is allowed a fee not to exceed $2.

The Colorado act of 1913 provides that "no license to marry shall be issued where either of the contracting parties is an idiot, imbecile, of unsound mind, or under guardianship as a person of unsound mind, epileptic, insane, a habitual user of narcotic drugs, a habitual drunkard or habitual criminal, or who has been insane within five years, unless the female party to such marriage is over the age of 48 years or the male party thereto has been sterilized." No license to marry shall issue "when either of the parties is afflicted with a transmissible tubercular or venereal disease, or who at the time of making the application is under the influence of an intoxicating liquor or narcotic drug." Applicants for license to marry shall file with the county clerk "an affidavit of at least one duly licensed physician other than the person seeking the license, showing that the contracting parties are not idiotic, imbecile, of unsound mind, or under guardianship as persons of unsound mind, epileptic, insane, narcotic or drug habitués or habitual drunkards, or afflicted with a transmissible tubercular or venereal disease," or that one of the parties has been sterilized.

Oklahoma by an act passed in 1913 likewise requires the certificate of a physician as to the fitness of the parties to enter into the marriage contract.

Other states which recently have passed laws with the design of preventing venereal disease through marriage are Utah, Washington, Indiana and Pennsylvania, but these states do not require a physician's certificate. In the last-named state an oath must be made by persons contemplating matrimony to the effect that they are physically fit for marriage, and no license shall be issued to any person who is an imbecile, epileptic, a person of unsound mind or under guardianship as a person of unsound mind, nor to any person who within five years has been an inmate of a county asylum or a home for indigent persons unless the cause of such condition has been removed and the applicant is able to support a family. Licenses shall not be granted to persons under the influence of liquor or narcotic drugs. A discussion of state regulation of marriage will be found in THE JOURNAL, May 17, 1913, p. 1562, in which the marriage laws of states other than those above named are taken up.

SERUM AND VACCINE TREATMENT OF TYPHOID

To the Editor:—1. Does the serum injection for typhoid favorably modify the course of the disease after it has become established?

2. Does the serum, if injected, make a person immune to typhoid, and if so for how long does the immunity last?

3. How is the serum obtained?

I understand that the serum [illegible] rs in the army, but wish to obtain more [illegible] one gets from newspapers.

[illegible] Mich.

ANSWER.—We must, of course, distinguish between the serum treatment of typhoid and the vaccine treatment. Our correspondent inquires with reference to the serum treatment.

1. The principal serum used in the treatment of typhoid is that of Chantemesse. Chantemesse reports very good results from his treatment, but these have not been confirmed by other authors. It may be said that the evidence with reference to this form of treatment is insufficient for positive conclusions to be drawn from it. It has been used altogether, or nearly so, as a curative treatment.

2. So far as we know the immunity produced by it is quite temporary.

3. The serum is obtained from horses injected with the typhoid bacillus.

The statement of the correspondent that he has understood that the serum treatment has done wonders in the army evidently refers to the vaccine treatment which has been used in the United States Army. This treatment is a prophylactic vaccination to prevent the occurrence of the disease. The vaccine employed is an emulsion of killed typhoid bacilli produced by heating cultures of that organism. Such cultures have been used for the treatment of typhoid fever and favorable results have been reported, but there is no agreement among clinicians as to the value of this form of treatment. It is, however, an effective prophylactic. The immunity conferred on healthy persons lasts about two years and in some cases longer.

LITERATURE ON RECENT MEDICAL DISCOVERIES

To the Editor:—I wish to prepare a paper on new discoveries in medicine. If you can send me any material or refer me to literature that will help me, I shall be very glad indeed. W. A. N.

To the Editor:—What do you consider the most important discoveries in medicine either curative or preventive in 1913? Please name the subject, refer me to literature or comment on it.

G. F. Jones, M.D., Georgetown, Del.

Answer.—The following is a list of articles referring to recent discoveries of importance:

Noguchi, H., and Moore, J. W.: Demonstration of Treponema Pallidum in Brain in Cases of General Paralysis, *Jour. Exper. Med.*, February, 1913; abstr., The Journal, Feb. 22, 1913, p. 627.

Spirochaeta Pallida in the Brain in General Paralysis, Current Comment, The Journal, March 29, 1913, p. 1002.

Judd, C. C. W.: Serum Diagnosis of Pregnancy, The Journal, June 21, 1913, p. 1947.

Rosenow, E. C.: Etiology of Articular and Muscular Rheumatism, The Journal, April 19, 1913, p. 1223.

Fischer, J.: Abderhalden's Serodiagnosis of Mental Diseases, Deutsch. med. Wchnschr., Oct. 30, 1913; abstr., The Journal, Dec. 6, 1913, p. 2111.

Orr, H. W.: The Relation of Politics to the State Care of Crippled and Deformed, The Journal, Oct. 25, 1913, p. 1521.

Wright, H. W.: The Problem of the Criminal in the Light of Some Modern Conceptions, The Journal, Dec. 13, 1913, p. 2119.

Kabanow, B. T.: Abderhalden's Test Applied to Gastro-Intestinal Tract, München. med. Wchnschr., Sept. 30, 1913; abstr., The Journal, Nov. 8, 1913, p. 1757.

Abderhalden's Test in Cancer, editorial, The Journal, Oct. 18, 1913, p. 1461.

Flexner, Simon, and Noguchi, Hideyo: Experiments on the Cultivation of the Virus of Poliomyelitis, The Journal, Feb. 1, 1913, p. 362.

Bunting, C. H., and Yates, J. L.: An Etiologic Study of Hodgkin's Disease, The Journal, Nov. 15, 1913, p. 1803.

Billings, F., and Rosenow, E. C.: The Etiology and Vaccine Treatment of Hodgkin's Disease, The Journal, Dec. 13, 1913, p. 2122.

UNDESCENDED TESTICLE

To the Editor:—In a man aged 23, the right testicle and right corpus cavernosum are normal. The left testicle is undescended, and the left corpus is only partially developed, making erection of penis perfect on right side, and less than 50 per cent. efficient on the left, the organ being curved as in chordee.

1. In double castration before puberty, or if both testicles remain in the abdomen, would neither corpus develop?
2. In single castration before puberty, or with one undescended testicle, does lack of development result in the corpus of the corresponding side?
3. In short, is it a physiologic law that each testicle controls the development of the corpus cavernosum on its respective side?
4. Is it possible for spermatozoa to mature, and a man be sexually potent when both testicles are undescended?

D. W. Wheelwright, M.D., Woodward, Iowa.

Answer.—1. With castration before puberty, the external genitals remain small in development.

2 and 3. It is not generally thought that the development of the testicles governs the growth of the corpora cavernosa. With undescended testicles, all things are possible so far as development and function of the genital organs are concerned, depending on a number of factors. Testicles may be quite normal in every way and still be undescended.

4. Yes.

EFFECT OF ARSENIC

To the Editor:—Please answer the following:

1. What is the effect of long-continued and large doses of arsenic on the individual's resistance to disease?
2. Is it or is it not true that the arsenic eaters of Styria and Tyrol enjoy long life and good health, and apparently resist disease as well as other persons who use no arsenic?
3. What is the longest time (months or years) on record of the finding of arsenic in the urine or body after its administration by mouth?
4. Does not the reliability of statements of the finding after months or years become lessened in the light of reports that arsenic has been recovered from the urine when it had never been administered by mouth or injection?

Hugh S. Maxwell, M.D., Lisbon, Ohio.

Answer.—1. So far as we can learn there has been no determination of the effect of large doses of arsenic on the individual resistance. Presumably, like other forms of poisoning, it would reduce it.

2. The reports of the arsenic-eaters of Styria and Tyrol indicate that they were strong and apparently healthy men. We find no statements indicating their length of life.

3. Arsenic has been found in the urine ninety-three days after its administration. The statements as to the length of time that it can be found in the soft parts are derived from necropsies following single poisonous doses. The latest period at which it has been found in the soft parts is fourteen days, but it has been found in the bones six weeks after the taking of the poison.

4. The most careful investigations of arsenic in the normal body have been those of Gautier. According to him, arsenic is not found in normal urine, that is, when arsenic has not been ingested.

BOOKS ON HEREDITY AND HYGIENE

To the Editor:—Please publish a list of books on eugenics and heredity, and one on hygiene and sanitation, especially of the schools. F. E. Redman, M.D., Mott, N. Dak.

Answer.—Recent works on these subjects include the following:

Goddard, H. H.: The Kallikak Family, a Study in Heredity of Feeble-Mindedness, Macmillan Company, 66 Fifth Avenue, New York, price $1.50.

Bateson, W.: Mendel's Principles of Heredity, G. P. Putnam's Sons, 27-29, West Twenty-Third Street, New York, price $3.50; Problems of Genetics, Yale University Press, New Haven, price $4 net.

Walker, C. E.: Hereditary Characters and Their Mode of Transmission, Longmans, Green & Co., 91 Fifth Avenue, New York, price $2.40.

Saleeby, C. W.: Parenthood and Race Culture, Moffart Yard & Co., New York, price, $2.50.

Punnett, R. C.: Mendelism, Macmillan Company, 66 Fifth Avenue, New York, price $1.25.

Winship, A. E.: Jukes-Edward, R. L. Myers & Co., 401 West Market Street, Harrisburg, Pa., price 50 cents.

Rosenau, M. J.: Preventive Medicine, D. Appleton & Co., 29-35 West Thirty-Second Street, New York, price $6.

Harrington: Practical Hygiene, Lea & Febiger, 706-710 Sansom Street, Philadelphia, price $4.25.

Dresslar, F. B.: School Hygiene, Macmillan Company, 66 Fifth Avenue, New York, price $1.25.

Pyle: Personal Hygiene, W. B. Saunders Company, 925 Walnut Street, Philadelphia, price $1.50.

Bergey: Handbook of Hygiene, John Wiley & Sons, New York, price $1.50.

Sedgwick: Principles of Sanitary Science and the Public Health, Macmillan Company, 66 Fifth Avenue, New York, price $3.

ANTI-CIGARETTE LEAGUE TREATMENT

To the Editor:—I understand that the Anti-Cigarette League of Chicago has a treatment for cigarette-smoking. Is this treatment successful? What is the treatment?

Henry C. Cadwell, M.D., St. Croix Falls, Wis.

Answer.—The treatment advised by the Anti-Cigarette League consists, first, in careful regulation of the diet, particularly the exclusion of meat for a time. The diet for the first two weeks consists exclusively of fruits, well-cooked cereal foods and milk. Eliminative baths, preferably the Turkish bath, will assist in rapidly getting rid of the stored-up nicotin. The second and third parts of the treatment are the chewing of the gentian root between meals, and the washing of the mouth with a 0.25 per cent. solution of silver nitrate after each meal. This is continued, if necessary, for one week. The silver nitrate, it is claimed, combines with nicotin so as to render it extremely distasteful.

TRANSMISSION TO FETUS OF IMMUNITY TO SMALL-POX

To the Editor:—Please inform me if an active case of small-pox in the mother, eight months pregnant, conveys an immunity in the child. The patient in question was vaccinated twice. Both vaccinations were negative, but the patient later developed varioloid.

D. M. C.

Answer.—Small-pox may be conveyed to the fetus through the placenta, and in this way the fetus may experience the disease; if recovery takes place, immunity will be acquired as in cases of extra-uterine disease. The fetus does not always take the disease *in utero*, and in such cases we do not know that there is any evidence of the transmission of immunity.

CALCIUM CREOSOTE—SYRUP AMMONIUM HYPOPHOSPHITE

To the Editor:—1. I should like to ask your opinion of Calcium Creosote, so-called, that is being offered by several houses. Is it a good way to administer creosote?

2. Is Syrup Ammonium Hypophosphite a good way to administer ammonium in bronchitis?

N. F. Cheever, M.D., Greenfield, N. H.

Answer.—1. We are not able to advise regarding this matter.

2. Yes.

Miscellany

Bradycardia in Intestinal Disease.—M. Loeper (*Presse méd. belge*, 1913, lxv, 863) cites a number of typical cases. In some the pulse was 36-42 or in this vicinity, the bradycardia coming on as it were spontaneously in the course of an aggravation of long-existing vague intestinal trouble in persons inclined to be neurotic. In other cases the bradycardia was secondary to an acute or subacute intestinal affection, such as gangrenous appendicitis. In one case the pulse was 54 or 56, but the general condition was at first quite fairly good and the cardiovascular apparatus apparently intact. Necropsy disclosed a cancer at the ileocecal valve. Loeper states that bradycardia in these intestinal cases is intermittent and transient, disappearing as the intestinal affection is cured. The bradycardia is generally accompanied by malaise, dizziness and tendency to syncope, resembling an incomplete form of Stokes-Adams. Subcutaneous injection of 0.001 gm. of atropin sulphate does not modify bradycardia of organic origin, but the pulse starts up at once when the bradycardia is of nervous origin. Compression of the eyeball renders the pulse still slower with nervous bradycardia while it does not modify the organic. Certain facts observed suggest the possibility that some irritation or affection of the medulla oblongata or pneumogastric system may be the primal cause of both the intestinal disturbance and the bradycardia. Treatment of the bradycardia in either case, Loeper says, should be with valerian and belladonna (0.05 gm. and 0.02 gm.), taken three or four times in the twenty-four hours, the patient staying in bed to prevent injury from vertigo or syncope. In severe cases atropin should be given. Hot or alcoholized compresses to the abdomen soothe both the vascular and the nervous elements. The cause must be sought and removed, but drastic measures should be avoided.

Rape in Young Girls.—In an article in *International Clinics*, 1913, ii and iii, on this subject, Gurney Williams states it as his belief that the crime of rape is on the increase. He says that neither the medical nor the medicolegal aspects of the crime are properly understood by physicians, and that in consequence many mistakes are made and innocent persons compelled to suffer. He criticizes the superficial examinations and investigations made by physicians, the methods of dealing with these cases by lawyers and the courts and the laxity of parents in the matter of proper teaching and safeguards, and points out the rôle of modern industrial and living conditions in the promotion of this form of crime. The medical and the medicolegal sides of the question are discussed and illustrative cases are given showing how grievous errors may arise in the investigation and handling of these cases, and much good advice derived from a large experience is given as to how the physician should proceed so that the truth may be arrived at and no injustice be done to either party. To the physician, the lawyer, the courts and to sociologists these papers should be of the highest interest.

Local Cold Storage Warehouses in Canada.—J. A. Ruddick, Dairy and Cold Storage Commissioner of Canada, at the Third International Congress of Refrigeration, described the Canadian law under which local cold storage plants are subsidized. In 1907 the Canadian Parliament passed a law which authorizes the Minister of Agriculture to enter into contracts for the payment of subsidies on public cold storage warehouses erected under certain conditions. Before this law came into force, the larger centers had been provided with cold storage facilities, but under this legislation the erection of comparatively small local warehouses situated in the producing centers of Eastern Canada has been stimulated. In this way, storage facilities are provided as nearly as possible to the point of production and the goods are placed in cold storage with the least possible loss of time or chance for deterioration. The main advantage in having local cold storage warehouses at points of production is that such a plan enables the producer or dealer to place his perishable goods in safe-keeping with the least possible delay. The prejudice which exists in some quarters against cold-stored foods has its root very largely in the fact that these foods are often out of condition before they reach the warehouse. The local cold storage plant is, in Ruddick's judgment, a safeguard against such conditions arising. For egg storage and where extremely low temperatures are not required, the system is giving very good satisfaction with a low cost of operation. The regulations made under the act provide for the inspection of all cold storage warehouses which receive the government subsidy. The inspection relates to the sanitary condition of the establishment and the manner in which it is conducted. If the inspector's report is unsatisfactory, the instalments of the subsidy still due may be withheld.

Opticians' Mistakes.—Durand (*Ann. Ophth.*, 1913, xxii, 673) states that it is an every-day occurrence for patients to go from one ophthalmologist to another and obtain no relief because of error by the optician in filling the prescription. As proof for this assertion he advances the following statistics: Three hundred and fifty lenses obtained as a result of writing to thirty-eight ophthalmologists whose prescriptions had been filled by forty-five opticians were compared with a control series of 250 lenses, from prescription of one ophthalmologist filled by one optician. The latter was bound by an agreement that any lens not accurately coinciding with the prescription would not be accepted. In the former group there were ninety-one accurate lenses, or a total of 26.03 per cent.; in the latter group 194 accurate, or a total of 77.6 per cent. "That absolute accuracy is practically as well as scientifically worth while," says Durand, "is being demonstrated daily in the practice of those men who are not satisfied with any inferior work." The assertion has been made that absolute accuracy is not necessary because few patients keep their glasses straight for any length of time. If the science of refraction is really a science, then, this is indeed a ridiculous assertion. The filling of the prescription is based on an exact science, and the experience of those who have studied the matter shows that any good optician can fill prescriptions accurately if he takes time and trouble. If the ophthalmologist is indifferent and willing to accept "just as good" productions, no discussion is necessary; but, if he accepts the responsibility of doing his best for the patient, he will then see to it, not simply that a prescription is as good as he can make it, but also that it is filled accurately.

Meningeal Hemorrhage in Childhood.—Meningeal hemorrhage is met in newly born infants who have become infected, and in connection with hemorrhagic states. It may also follow strain or effort in presence of meningeal irritation, and is almost always of venous origin in infants. In most cases the symptomatology is reduced to somnolence and a tendency to coma. Conjugate deviation of the eyes and head is less frequent than in cerebral hemorrhage. Epileptiform convulsions are common and are usually of the jacksonian type. Contracture is usually present, and Kernig's sign is pretty constant. In older children we may meet hemiplegia or monoplegia. Sometimes there is amaurosis or incontinence of urine. The reflexes are exaggerated but should there be hypertension of the cerebrospinal fluid they may be abolished. Vomiting is common, and respiration is often dissociated, as in tuberculous meningitis. The temperature may rise and reach 104 F., or more when death is imminent. Then, too, there are varied latent unrecognizable forms. Two types have been described in the newly born — the blue and the white. The latter form is the more serious, and the victim succumbs with extensive effusions of blood. Lumbar puncture gives issue to a more or less manifestly blood-stained fluid. Prognosis is not quite so grave as it used to be, and recovery is not uncommon, though the forecast must be guarded in respect to the child's future. Epilepsy is very apt to supervene later on in life. The patient should be kept very quiet, with ice to the head; the limbs are wrapped in wadding, the bowels are cleared with enemas and aperients, and recourse should be had to lumbar puncture except in hemorrhagic subjects. Bromid is usually of benefit in these cases by diminishing cerebral congestion.—Hutinel in *Med. Press and Circular.*

Medical Education and State Boards of Registration

COMING EXAMINATIONS

KANSAS: Topeka, Feb. 9-11. Sec., Dr. H. A. Dykes, Lebanon.
MISSOURI: Jefferson Hotel, St. Louis, Feb. 9-11. Sec., Dr. J. A. B. Adcock, Jefferson City.
NEBRASKA: Lincoln, Feb. 11. Sec., Dr. H. B. Cummins, Seward.
NEW YORK: Jan. 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Albany.

Georgia October Report

Dr. C. T. Nolan, secretary of the State Board of Medical Examiners of Georgia, reports the written examination held at Atlanta, Oct. 14, 1913. The number of subjects examined was 10; total number of questions asked, 100; percentage required to pass, 80. The total number of candidates examined was 22, of whom 15 passed and 7 failed. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1911)	84.2
Atlanta School of Medicine	(1913)	80
University of Georgia	(1913)	85.1
University of Louisville	(1912) 80; (1913)	80.5, 81.2
Tulane University	(1913)	88
Johns Hopkins University	(1913)	80
Maryland Medical College	(1912) 80.5; (1913)	80.2
University of Maryland	(1913)	87.2
Leonard Medical School	(1912)	89.5
Meharry Medical College	(1912) 81.2; (1913)	80.2, 83.2

FAILED

College	Year Grad.	Per Cent.
University of Georgia	*(1912)*	73.2
Maryland Medical College	(1912)	71.2
Chattanooga Medical College	(1910)	71.3
Meharry Medical College	(1908) 69.3; (1912)	64.1, 68.1, 72.2.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Kentucky University	(1903)	Mississippi
Louisville National Medical College	(1906)	Kentucky
University of Maryland	(1903) North Carolina; (1911)	Maryland, (1911) Maryland.
Long Island College Hospital	(1897)	N. Carolina

New Mexico October Report

Dr. W. E. Kaser, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fe, Oct. 14-15, 1913. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Four candidates were licensed through reciprocity and 9 on presentation of satisfactory credentials. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Southern Medical College, Atlanta	(1893)	67.7*
Ensworth Medical College	(1891)	62 *
Eclectic Medical College, Cincinnati	*(1913)*	*81.1*
Fort Worth School of Medicine	(1911)	88

* 5 per cent. allowed for each 5 years of practice.

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year of Grad.
Columbian College, D. C.	(1900)
Louisville Medical College	(1904)
University of Louisville	(1912)
Northwestern University	(1912)
Rush Medical College	(1882)
Baltimore University, School of Medicine	(1904)
St. Louis University	(1907)
University and Bellevue Hospital Medical College	(1899)
Vanderbilt University	(1883)

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Southern Medical College, Atlanta	(1886)	Oklahoma
[illegible] Medical College	(1907)	Oklahoma
[illegible] College	(1891)	Oklahoma
[illegible] Texas	(1906)	Oklahoma

Wyoming October Report

Dr. H. E. McCollum, secretary of the Wyoming State Board of Medical Examiners, reports the written and practical examination held at Cheyenne, Oct. 15-17, 1913. The number of subjects examined in was 10; the total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was two, both of whom passed. Five candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cotner Medical College	(1913)	86.3
Marquette University	(1912)	84.4

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Kansas	(1906)	Kansas
Chicago College of Medicine and Surgery	(1913)	Illinois
Northwestern University	(1911)	Illinois
Keokuk Medical College	(1904)	Iowa
Lincoln Memorial University, Knoxville	(1907)	Tennessee

Connecticut November Homeopathic Report

Dr. Edwin C. M. Ball, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, Nov. 11-12, 1913. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. Two candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Hahnemann Med. College and Hospital, Chicago	(1913)	86
Boston University, School of Medicine	(1899)	80
New York Homeo. Medical College and Hospital	(1912) 87; (1913)	81, 85, 87.

FAILED

College	Year Grad.	Per Cent.
Southern Homeo. Medical College, Baltimore	(1909)*	

* No grade given.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
New York Homeo. Med. College and Hospital	(1908)	New York
Hahnemann Med. College and Hospital, Phila.,	(1908)	New York

Connecticut November Eclectic Report

Dr. T. S. Hodge, secretary of the Connecticut Eclectic Medical Examining Board, reports a written examination held at New Haven, Nov. 11, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. One candidate, a graduate of the Eclectic Medical College of the City of New York in the year 1912, passed with an average of 90 per cent. One candidate, a graduate of the Eclectic Medical College of Cincinnati in the year 1913, was licensed through reciprocity with Arkansas.

Delaware December Report

Dr. Henry W. Briggs, secretary of the Medical Council of Delaware, reports the written examination held at Dover, December 9-11, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Georgetown University	(1911)	82
Johns Hopkins University	(1911)	89.5
Albany Medical College	(1912)	82.3
University of Pittsburgh	(1912)	79.9
University College of Medicine, Richmond	(1910)	85
Royal University of Parma, Italy	(1901)	79.2

FAILED

College	Year Grad.	Per Cent.
Royal University of Naples	(1912)	73.2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Maryland	(1912)	Michigan
Jefferson Medical College	(1895)	New Jersey
Medico-Chirurgical Coll. of Philadelphia (1907)	(1912)	Penna.
University of Pennsylvania	(1911)	Penna.

Book Notices

Problems of Genetics. By William Bateson, M.A., F.R.S., Director of the John Innes Horticultural Institution. Cloth. Price, $4. Pp. 258, with illustrations. New Haven: Yale University Press, 1913.

The purpose of Bateson's lectures, as here reproduced, was to discuss some of the familiar phenomena of biology in the light of knowledge acquired by the methods of analysis based on the observations which Mendel offered to the world in two papers, in 1866 and 1869. The lectures were delivered in 1907, but their publication was delayed because Bateson desired to produce first his "Mendel's Principles of Heredity," which he did in 1909, offering in that work translations of the two epochal papers before mentioned. The delay in the issue of the present book has been fortunate in that Bateson has been able to incorporate many contributions in the field in which he is so original, revealing and broadening a worker.

Bateson reminds us that after 1890 it was perceived that if any serious advance was to be made with the group of problems generally spoken of as the theory of evolution, more direct and penetrating methods of investigation would have to be applied than those which seemed adequate at the time of the general acceptance of Darwin's views. Such methods were to be found in an exhaustive study of the facts of variation and heredity, on which all conceptions of evolution are based. To synthesize a valid theory of evolution these facts had to be examined as phenomena, instead of being merely postulated as axioms; indeed, Darwin had begun such an examination. The terms "variation" and "heredity" have stood for processes so vague that no analysis of them could be contemplated. As soon as systematic inquiry into the natural facts was begun, accepted ideas of variation were discovered to be unfounded. Variation was becoming recognized as a definite and specific phenomenon, affecting different forms of life in different ways, but in all its diversity manifesting regularity. The observation was not essentially novel. Several examples of definite variation had been known to Darwin, but he had been disposed to depreciate their significance. Continued and careful inquiry, however, proved such examples to be more numerous than was supposed, and a discussion of their nature compelled the consideration that the differences by which these definite or discontinuous variations are constituted, again and again approximate and are comparable with the class of differences by which species are distinguished from each other.

By means, then, of the facts of variation, a new light was obtained on the physiologic composition and capabilities of living things. Genetics thus ceases to be merely a method of investigating theories of evolution or of the origin of species, and provides an instrument by which the nature of the living organism may be explored. In the study of non-living matter science began by regarding its external properties, noting only such evidences of chemical attributes and powers as chance revealed; later it came to discover that these casual evidences, rightly interpreted, afford a key to the intrinsic nature of the diversity of matter. In like manner the biologist, having examined those features of living things which ordinary observation can perceive, has come at last to realize that when studied for their own sake, the properties of living organisms in respect to heredity and variation indicate their inner nature and provide evidence of that nature which is obtainable from no other source.

While such ideas as Bateson thus expresses were gradually forming, there came the rediscovery of Mendel's work, through which investigations before only imagined as desirable became easy to pursue. Questions as to the genetic interrelations and compositions of varieties can now be definitely answered. In Mendelism (the essence of which lies in the discovery of unit characters or factors) Bateson believes that we have now the means of analyzing living organisms and distinguishing many of the units or factors which essentially determine and cause the development of the several attributes of those organisms. Bateson assumes in the reader a working knowledge of Mendelism, on the basis of which he discusses the following problems: species and variety;meristic phenomena; segmentation, organic and mechanical; the classification of variation and the nature of substantive variation; the mutation theory; variation and locality; the effects of changed conditions (adaptation, the causes of genetic variation), and the sterility of hybrids.

Stammering and Cognate Defects of Speech. By C. S. Bluemel. Two Volumes. Volume I: The Psychology of Stammering. Vol. II: Contemporaneous Systems of Treating Stammering: Their Possibilities and Limitations. Cloth. Price, $5 net. New York: G. E. Stechert & Co., 1913.

This work is significant from more aspects than one. In the first place the author is a psychologist and also a stammerer, and probably this mysterious disorder has never before been studied introspectively by one skilled in psychologic analysis. The point of view of the book is psychologic. It sets out to find the mental cause for stammering. After recalling certain of the principles of psychology and reviewing at length the psychologic phenomena relating to speech, including the pathologic effect on the speech of the aphasias, it approaches the phenomena of stammering from the foundation thus laid down. So, while disposing of the older theories concerning the origin of stammering, the author arrives at a new theory of causation. He believes the disorder to be dependent on a "transient auditory amnesia," with also, to be sure, accessory physical phenomena. In the course of this very sincere and painstaking study the writer presents for review the gist of much that has heretofore been written on stammering, and also shows the insincerity and unintelligence of much of the institutional treatment prevalent both in Europe and in America. Incidentally also he declares that the best work in treatment is usually that carried on by physicians. A bibliography is appended to the second volume. The book is highly technical but is the most important study of stammering undertaken for many years; it will probably provoke discussion, regardless of the final reception or rejection of the author's theory concerning the cause of the disorder.

Innere Sekretion und Nervensystem. Von H. Eppinger, R. Hirschfeld, A. Leri and Others Volume IV of the "Handbuch der Neurologie," Herausgegeben von M. Lewandowsky. Paper. Price, 24 marks. Pp. 493, with 56 illustrations. Berlin: Julius Springer, 1913.

This volume of Lewandowsky's epoch-making work on the nervous system contains a succinct and yet complete account of the glands with internal secretion in their relation to the nervous system. The following subjects are fully discussed: exophthalmic goiter, myxedema, cretinism, tetany, dystrophia adiposogenitalis, acromegaly, pineal gland disorders, diseases of the adrenals, status thymolymphaticus, agenitalism and hypogenitalism (*insuffisance pluriglandulaire*), nervous manifestations of normal and precocious menopause in relation to the glands of internal secretion, adiposis dolorosa (Dercum's disease) and Paget's disease. Each of the subjects is treated from the clinical point of view mainly, although the theoretical aspect is not lost sight of. This volume, though part of the large work on the nervous system, is complete in itself and will serve as a compendium on the clinical and practical aspects of internal secretory disorders.

Allgemeine Psychopathologie. Ein Leitfaden für Studierende, Aerzte und Psychologen. Von Dr. Karl Jaspers, Wiss. Assist. an der Psychiatrischen Klinik in Heidelberg. Paper. Price, 8.80 marks. Pp. 338. Berlin: Julius Springer, 1913.

In this guide to general psychopathology written for students, physicians and psychologists, general principles are laid down. One might well call it an abbreviated text-book on psychology in which the pathology is kept well in mind. The aim of the writer was not merely to enumerate facts, but to teach his reader how to observe psychopathologically, to question, to analyze and to think psychopathologically. In our opinion the author has written a book worthy of commendation. While it would be impossible to agree with him in every detail, yet his psychology on the whole is sound. This book has the peculiar virtue of leaving one in a dissatisfied state of mind and eager to gain more light; in other words, it stimulates one to pursue the subject further.

Medicolegal

Courts Without Authority to Compel Plaintiffs to Submit to Physical Examinations

(Atchison, Topeka & Santa Fe Railway Co. vs. Melson (Okla.), 134 Pac. R. 388)

The Supreme Court of Oklahoma holds that, in that state, in the absence of a statute or constitutional provision so providing, a trial court has no power to order a plaintiff in an action for damages to his person to submit in advance of or during the trial of the cause to an examination by a physician to be selected by the parties or by the court to ascertain the extent of his injuries, in order that such physician may testify at the trial relative to the plaintiff's injuries. This follows the rule adopted in *City of Kingfisher vs. Altizer*, 13 Okla. 121, where it was held that courts of the territory could not order a plaintiff, in an action for injuries to his person, to submit to a surgical examination in advance of or during the trial of the cause.

The court was asked to overrule the Altizer case, it being suggested that the decision in that case appeared to have been reached because of the binding force on the territorial courts of the doctrine announced in *Union Pac. Co. vs. Botsford*, 141 U. S. 250. But the court says that, while it recognizes that the weight of the state autnorities supports the existence of the power and is against the doctrine announced in the Altizer case, in view of the fact that the rule in that case has stood in this jurisdiction since 1903 and is supported by the decisions of a respectable number of the courts of unquestionably high standing and ability, and in view of the fact that the courts supporting the majority doctrine affirm the existence of the power principally on reasons of necessity, as it seems to them, rather than on judicial precedent under the common law or on the application of recognized principles of common law, the court is not of the opinion that it should overrule the doctrine announced in the Altizer case.

It appears that the existence of the power, independent of statute or of constitutional provision, has been affirmed in Alabama, Arkansas, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, North Dakota, Washington and Wisconsin, and has been denied in Illinois, Massachusetts, Texas, New York, Utah, Montana, Oklahoma, and in the federal courts. None of the courts that affirm the existence of the power, so far as this court has been able to examine the authorities, attempts to support its assertion with common-law precedent. Some of them content themselves with the bare assertion of its existence; others strongly reason the necessity of such power to enable the courts to administer full and complete justice and to prevent the practice of frauds in personal injury actions. No case has been called to this court's attention, and none that it has been able to find, satisfactorily accounts for the source of this power, or satisfactorily evolves the doctrine by the application of principles recognized at common law to new conditions.

It is true that, on account of numerous inventions and the important part that complicated and dangerous machinery now plays in the commerce of the world, personal injury actions are more numerous than they were before the establishment of the federal government; but actions for personal injuries existed at common law, and, as has been stated by some of the courts, this power now claimed for the courts does not appear to have ever been exercised by the common-law courts of England, and the fact that no precedent can be found from the English courts supporting its existence is persuasive that no such power existed.

Among those courts asserting the existence of the power, there is a division on questions pertaining to its application. Particularly is this true as to the extent to which the examination may be carried, and as to how obedience to the order for examination may be enforced. By some of these courts it is asserted that anesthetics, drugs and surgical instruments cannot be used in the examination, while in *Atchison, T. & S. F. Ry. Co. vs. Palmore*, 68 Kan. 545, the injection of a drug into an injured eye was held to be authorized. Some of the courts assert that obedience to the order is to be enforced by contempt proceedings, while others hold that failure to obey the order authorizes a dismissal of the plaintiff's action.

This court holds that it is competent, however, on the cross-examination of the plaintiff in the trial of a personal injury action, to ask him whether he is willing to submit to a physical examination of his injuries by a physician, to be appointed by the court or agreed on by the parties. That such question is competent is established in this jurisdiction, and seems to be supported by the decisions of all the courts denying the existence of the power to require an examination in the absence of legislative enactment.

Partner Failing to Use Agreed Business Methods—Sufficient Consideration for Covenant to Refrain from Practice—Case Where Court of Equity Will Not Enjoin from Practicing

(Marvel vs. Jonah (N. J.), 86 Atl. R. 968)

The Court of Chancery of New Jersey holds that under some circumstances a physician may be entitled, for a breach of a partnership contract, to a dissolution of partnership, and an accounting, while the defendant will not be enjoined from practicing in the city. The court says that the complainant in this case entered into a partnership with the defendant and another physician. It was agreed between them that one should render to the bookkeeper, or the person employed for that purpose, a daily account of the work done or visits made that day by him, together with all moneys paid to him on account of the work done or visits made. All professional cards, letter-heads, bill-heads and other stationery relating to the practice generally, were to be furnished by the complainant and were to be used exclusively by the three. The complainant was to have the right to cancel the agreement and oust the party or parties offending, if at any time during the term of the agreement either of the other parties should fail to perform the covenants of the agreement, etc., faithfully, and if either of the other parties should for any reason withdraw from the partnership, or commit a breach or violate any of the covenants of it in such a manner as to justify the complainant in requesting the party or parties so offending to withdraw from the partnership, or to cause the complainant to cancel the agreement, then, in either event, such party or parties should not be permitted to practice medicine in that city for a period of three years next ensuing such voluntary withdrawal or ouster.

This suit was brought by the complainant for an accounting, a dissolution of the partnership, and an injunction restraining the defendant from practicing his profession in the city for a period of three years. The defendant conceded that he had not rendered to the bookkeeper reports of his work in accordance with the requirements of the provisions of the partnership agreement. It was not claimed that he did not fully comply with these requirements of the agreement, and also with the office rules prescribed by the complainant, so far as what was known as "office practice" was concerned. In prescribing for patients during office hours the defendant appeared to have promptly supplied to the bookkeeper all necessary data of his work thus performed. But for what was called "outside work" the defendant during three prolonged periods failed to supply the bookkeeper with a record of his work promptly. No dishonesty or even dishonest purpose on his part was claimed or suggested, and no loss of money appeared to have been occasioned by his negligence in reporting the details of his work during those periods. But his business methods during the three periods referred to were clearly contrary to the terms of the partnership agreement. His excuse for his delinquency in this respect was to the effect that he would become so engrossed in his professional work that he would not find time to make up his accounts for the bookkeeper, and, once falling behind, the task became greater and would not be finally performed until the necessity of settlement required it.

The complainant repeatedly urged him to make prompt reports and he promised to do so, and had, the court is convinced, tried to do so. As the prayer for an accounting and dissolution of the partnership was not resisted, the single question presented was whether the court should exercise its prohibitory power in behalf of the complainant to the end that the covenant of the defendant to refrain from the pursuit of his profession in the city for the period stated might be, in effect, specifically enforced against him.

It was contended in behalf of the defendant that the covenant to refrain from practice was not supported by an adequate consideration. All authorities appear to agree that a valuable consideration must be established to support a covenant of this nature, even though the covenant be under seal, but the weight of authority is clearly to the effect that if a valuable consideration is found to exist the adequacy of that consideration will not be inquired into. The evidence disclosed that when the partnership agreement in question was made the defendant was already a partner of the complainant. The agreement continued their partnership relation under new terms and also admitted to the partnership an additional partner. If the defendant ever understood the terms of his contract — and this was indeed doubtful — the court is fully convinced that until the suit was commenced he was in ignorance of the provisions sought to be enforced. His former defaults of the same nature have been overlooked by the complainant. It was urged by the complainant that the remedy sought flowed by contract from the right of dissolution. That was undoubtedly the language of the contract; but, in administering this form of relief, a court of equity is required to give consideration to a broader view than the naked terms of the agreement, and it thus becomes impossible to ignore the circumstance that the moving and fundamental cause for the relief here sought was the failure of the defendant to render his accounts to the bookkeeper in the manner specified in the agreement, and that this fault, unaccompanied by pecuniary loss or improper motives, and arising chiefly by reason of absorbing devotion to another and more important department of the defendant's partnership duties, could not justly be made the basis of a form of relief in a court of equity which would be fraught with consequences so serious to both the defendant and the public as the remedy here urged.

In considering this remedy as unjust and unnecessarily oppressive under the circumstances of this case, it must be borne in mind that it was more than doubtful whether the pursuit by the defendant of his profession during the period named would result in serious loss to the complainant. That patients would probably be treated by the defendant which might otherwise seek the services of the complainant might be conceded; but the complainant's practice was, in magnitude, far beyond his ability to cope with it without the employment of the services of others, while the consequences which would flow from denying to the defendant the privilege to pursue his practice in the only field of his acquaintance were of the utmost seriousness.

It is not to be inferred from what is here said that relief of the nature here sought is not within the field of equity jurisdiction in cases of this general nature; on the contrary, such relief is not infrequently granted. Nor is it to be here assumed that such damages as the complainant might suffer by the defendant's breach of contract are not recoverable in an action at law. The denial of relief by injunction herein is wholly based on the fact that under all the circumstances of this case the relief sought was unjust and unnecessarily oppressive.

A claim was also made by the complainant that the defendant had violated that part of his partnership agreement which required the exclusive use of stationery furnished by the complainant. That claim was based on the fact that the defendant had not uniformly used prescription blanks so supplied, but had, at times, used blank paper and at other times prescription blanks supplied by druggists on which were printed only the name of the defendant. The court has not been able to regard this alleged breach of the agreement as material.

Surgeon Entitled to Accident Insurance for Loss of Eyesight from Syphilitic Infection from Operation

(*Maryland Casualty Co. of Baltimore vs. Ohle* (Md.), 87 Atl. R. 763)

The Court of Appeals of Maryland affirms a judgment for $7,500 in favor of Dr. Ohle, who brought this action to recover, on an accident insurance policy issued by the company, for the loss of the sight of both eyes caused by having septic matter introduced into his system through a wound suffered in a professional operation. The uncontradicted evidence showed that the plaintiff contracted an infectious disease from a patient while delivering her in childbirth, in the month of October, 1909. He was subsequently treated and attended by experienced physicians and specialists in Baltimore, down to April 4, 1911, when the disease resulted in the loss of sight of both of his eyes caused by blood-poisoning from the wound suffered in the professional operation testified to by the plaintiff.

The court holds that the undisputed facts disclosed by the record brought this case within the terms and meaning of a rider attached to the policy, and covered the claim provided for and the loss insured against in the policy. The language of the rider attached to the policy was clear and unambiguous and must be construed according to the sense and meaning of the terms which were used by the parties making it. By its terms it extended the insurance clause of the policy to physicians or surgeons, and expressly stipulated that the insurance under this policy was extended to cover against death, loss of limb, or sight, total or partial disability caused by blood-poisoning from septic matter introduced into the system through the wounds suffered in professional operations. The object and purpose of the rider was to protect and secure indemnity against total or partial disability caused by blood-poisoning from septic matter introduced into the system through wounds suffered in professional operations.

The policy provided that written notice must be given to the company, or to the agent who countersigned the policy, as soon as might be reasonably possible, of any injury for which a claim was to be made, with full particulars thereof. Affirmative proof of loss of sight must be furnished to the company within two months from the time of loss of sight. "Claims not brought in accordance with these agreements will be forfeited to the company." But that was sufficiently complied with by the notice and statement submitted by the plaintiff to the company on March 14, 1911, which was as follows: "On the seventh of October, 1909, I was attending a woman in labor. I delivered her of a child suffering from syphilis; within two weeks a chancre developed on the middle finger of my right hand. I promptly began treatment, etc.; about April 10, 1910, I developed disease of the eyes, the result of the syphilitic infection. Sight in left eye wholly destroyed, right eye impaired; enter hospital to-morrow, March 15, 1911."

While the accident or injury which resulted in the loss of the plaintiff's eyesight occurred in October, 1909, the proof showed that it was not until March, 1911, that he was satisfied that he would lose the use of his eyes. Manifestly he could not give notice of the loss of eyesight until that condition happened. The words "as soon as may be reasonably possible" as used in accident insurance policies, and relied on by the company to defeat a recovery in this case, have frequently been before the courts for construction, and have been held to mean a reasonable time after the accident occurs, under the facts and circumstances of the particular case.

A View of Medical History.—When we have thoroughly mastered contemporary science, it is time to turn to past science; nothing fortifies the judgment more than this comparative study; impartiality of mind is developed thereby, the uncertainties of any system become manifest. The authority of facts is there confirmed, and we discover in the whole picture a philosophic teaching which is in itself a lesson; in other words, we learn to know, to understand and to judge.—Littré, Œuvres d'Hippocrate, i. 477.

Society Proceedings

CHICAGO NEUROLOGICAL SOCIETY AND THE BIOLOGICAL CLUB OF CHICAGO

Joint Meeting, held Dec. 18, 1913

The President of the Chicago Neurological Society, Dr. Ralph C. Hamill, in the Chair

Demonstration of Lange's Colloidal Gold Test in the Spinal Fluid

Dr. A. M. Moody: This test I believe to be the most valuable, especially from the point of view of diagnosis. Lange's technic is as follows: A series of ten test-tubes is used, 6 by ¾ inch in size. In the first, place 1.8 c.c. of a 0.4 per cent. sodium chlorid solution, freshly made from a stock 10 per cent. solution, in one test-tube, and 1 c.c. in each of the other nine. Then take 0.2 c.c. of yeast and add to the first two. This is mixed with a 1 c.c. pipet. One c.c. is removed and added to the second tube, making a dilution in this tube of 1:20. This procedure is carried on throughout the series. When finished, there is 1 c.c. in each tube, varying from 1:10, 1:20, 1:40, and so on up to 1:5,120 in the last tube. It is the making of the indicator that requires the greatest care. Absolute chemical cleanliness and the following of the technic in detail is the only possible way to obtain the best indicator. A good indicator is necessary for accurate results. When good, it is absolutely clear red, with some yellow and a tinge of purple.

The tests should stand for twenty-four hours that the maximum reaction may be secured before the final reading is taken; nevertheless, within from fifteen to thirty minutes one can tell what the result will be. In order to facilitate the reading and interpretation of the results, we may divide the reaction into three groups: (1) the reactions which are strongest in dilutions of 1:40 and 1:80; (2) those having the maximum reaction in dilutions of 1:80, 1:160 and 1:1,320; (3) those reactions which are strongest in dilutions of 1:640 up to 1:5,120. Diseases of the brain and cord falling into the first class are those due to syphilis, namely, syphilitic meningitis, gumma of the brain, tabes dorsalis, general paresis and congenital syphilis. Tuberculous meningitis usually gives the strongest reaction. Brain tumor, toxic meningitis and edema from sunstroke may give a slight reaction of equal intensity.

In my work the Lange reaction runs parallel with the Nonne. It bears relationship to the Wassermann reaction—this is so constant that in a series of over three hundred cases one can predict from the Lange test, the outcome from the Wassermann reaction. It seems fair to say that from the small amount of spinal fluid used—0.2 c.c.—and the ease and rapidity with which one may come to definite conclusions, it is the most valuable of our present-day laboratory methods for the examination of the spinal fluid. This is true not only in pathologic spinal fluids during life, but also in confirming anatomic changes found at necropsy.

DISCUSSION

Dr. Peter Bassoe: When I first heard of this test, it did not seem to me that it could really have any definite relation to pathologic conditions, but I soon became convinced that it really was so, partly by having the test made on all of the spinal fluids from patients with whom I was acquainted, and partly because I soon saw that with a very little practice I could make a good guess at the clinical diagnosis. One of my first experiences was with a case that had baffled me for about three years clinically. The man was what we would call neurasthenic, but had some transitory speech disturbance, which led me to be suspicious of paretic dementia; but he gave a negative Wassermann test. Finally I tried the spinal fluid and it gave a weak Wassermann test, while the blood was still negative. The Lange test was of the typical type, nevertheless. Similarly, in the cases that gave a reaction characteristic of cerebrospinal syphilis and tabes the results seemed convincing. I had an obscure case in a patient who first had pyorrhea then suddenly became severely ill with high fever, and developed an analgesia of the face on the right side, and a partial paralysis and sensory disturbances on the left side—in other words, a pons lesion. He improved but after a while had another attack, and after this attack he remained paralyzed. The Wassermann test was negative. The spinal fluid showed a reaction rather weaker, but of the same type as we see in the meningitis and the brain abscess cases. That patient finally came to necropsy and what appeared to be a simple encephalitis was found. There was no sign of syphilis in the body. I do not believe that Dr. Moody has had occasion to examine the spinal fluid in typical multiple sclerosis. It might be interesting to try it.

One word in regard to the globulin test. Dr. Moody uses the Nonne test. I agree with him that it is a much cleaner test. But still more satisfactory and easier to read is another test with ammonium sulphate, which amounts to the same thing—the Ross-Jones test. It is simply a contact test; instead of mixing the spinal fluid and ammonia solution at once, the spinal fluid is allowed to float on top of the ammonium sulphate solution. I make that first, wait a minute or so, then shake it up, and if there still remains a distinct cloud, I make the two tests at the same time.

Dr. C. G. Grulee: My work has been in regard to congenital syphilis. I had reason for thinking that a great many cases of congenital syphilis went undiagnosed if we depended only on the Wassermann test for the diagnosis. The test has helped me a great deal in distinguishing cases of congenital syphilis, and I think that if we rely on it tentatively, with the proper restrictions, we can feel that it is a very good test for confirming a diagnosis of congenital syphilis. I should not base a diagnosis on it alone, but I do think that, other things taken into consideration, it is a strong factor in favor of congenital syphilis, when positive.

Dr. Julius Grinker: I was in Berlin when Dr. Lange organized a class for giving instruction in making this test. I was unable to secure entrance to this class, but questioned some of the men, and also procured a very complete monograph which had just been published by Lange. I asked these men if they could make a positive diagnosis of general paresis and cerebrospinal syphilis, and they said that Lange did not tell them that. Lange said that the test was merely confirmatory, and it still needs a great deal of work to make it a positive and infallible test. So I came to the conclusion that the Lange test is no better than the Nonne test; it teaches no more than the Nonne test, if properly performed, and, as you know, the Nonne test itself will not make the diagnosis for you. You have to make it and merely apply the test to confirm it. Before this colloidal test can become popular and the common property of the profession, it will have to be simplified considerably. Therefore it seems to me that while we want to know all about it, and while it is something of great value, yet the test itself is not one that we can depend on solely to make our diagnosis. I believe that we shall have to keep the Wassermann, Nonne and Noguchi tests for a long time yet before we find something to replace them.

Dr. Arthur F. Beifeld: Has Dr. Moody any statistics on the gold colloidal reaction in disease other than tabes, general paresis or cerebrospinal syphilis?

Dr. D'Orsay Hecht: Does Dr. Moody think that the presence of blood, if only infinitesimal in amount, completely invalidates the test? Dr. Grinker is right in emphasizing the fallibility of this test, but this is true of all tests. For a clinician to assume that he is in a position to make a diagnosis from a laboratory test alone is taking altogether too much for granted. Laboratory tests should be confirmatory.

Dr. W. S. Timblin: During the last month in the Michael Reese Hospital we have made ten or more tests. Two of the cases were clinically general paresis and three tabes. The matter of making up the indicator does not present the great difficulty that some men have been led to believe. It really takes neither much trouble nor much time. With us the test has been extremely striking in the limited number of cases at our disposal.

Dr. A. M. Moody: I have not the statistics at hand now, but expect shortly to prepare a paper comparing the spinal fluid tests, and the relations between the Wassermann reaction and post-mortem fluids, including serum and spinal fluid. I have tried the gold chlorid reaction in cases other than syphilis. I have had a few cases of suppurative meningitis. All those cases in which I did find a reaction for syphilis were cases in which there were typical lesions of syphilis of the meninges or within the brain. The presence of blood in the spinal fluid, if it is a tabes or a general paresis—even the presence of a few corpuscles seen in the bottom of the tube—will modify the test a very little. If there is any marked amount of blood in the spinal fluid, then we should not rely on the result of the Lange test. Blood in the spinal fluid spoils it for practically all tests, excepting, perhaps, the cell-count.

I did not mean to leave the impression that this test was infallible. Lange has recently reported one thousand cases of spinal fluid examinations which were paralleled by the Wassermann reaction, and the reason that he has obtained higher results than any one else is that he uses a greater amount of spinal fluid. He uses 5, 10 and 15 c.c. of spinal fluid sometimes to secure a positive reaction, and in this article he states that as high as 30 c.c. of normal spinal fluid can be used, and the Wassermann remain negative. The test is of value only as a confirmatory test, when the other tests are taken into consideration, as well as the clinical diagnosis, but it does differentiate different groups of diseases.

(To be continued)

WESTERN SURGICAL ASSOCIATION

Twenty-Third Annual Meeting, held at St. Louis, Dec. 19 and 20, 1913

The President, Dr. Jabez N. Jackson, Kansas City, Mo., in the Chair

Tuberculous Hip-Joint Disease and Its Treatment with Bismuth Paste

Dr. Emil G. Beck, Chicago: Hip-joint disease in its incipient stage is too frequently diagnosed as rheumatism. Two-thirds of the patients give the history of having been treated in the beginning for rheumatism or sciatica. When the disease has progressed to the stage of abscess formation incision and drainage, as a rule, has been the form of treatment, a method which is now generally condemned. Sacral tuberculosis or that of the sacro-iliac joint is frequently mistaken for hip-joint disease. I have seen five such cases. This mistake is explained by the similarity of the swelling and contractures of the limb on the affected side. A patient who for years could not carry his weight on diseased limbs on account of acute pain in the joint, and was obliged to use crutches, could, after the joint was closed, walk without pain, and in most instances the patient was allowed to discard the crutches.

The prevention of bismuth poisoning consists in not allowing large quantities of the paste to remain in the body for absorption. Should the symptoms appear, the paste must be removed by washing out the cavity with warm olive-oil. The sterile oil is injected and retained for from twelve to twenty-four hours in order to produce an emulsion, which should be withdrawn by means of suction. After its removal all symptoms will promptly disappear. Scraping out the paste with a scoop is a dangerous procedure because it opens fresh channels for absorption.

DISCUSSION

Dr. J. W. Cokenower, Des Moines, Iowa: I tried phenol (carbolic acid), formaldehyd, iodoform, etc., as injections, and failed. I tried bismuth paste and failed. Bismuth poisoning also occurred. The reason was that in a case of cold abscess I made too large an incision. There seemed to be considerable necrotic tissue. In curetting I exposed new tissue and injected the paste; in the place where I left it raw the paste was absorbed. To obviate my mistake, I injected olive-oil, filled the wound solid, allowed it to remain twenty-four hours, then pumped out the paste and saved the patient.

One should make a small incision in these cases, the pus being sterile, and inject with bismuth paste; the presence of the paste will stimulate leukocytosis and proliferation of tissue. If the injection has been made properly, one injection is sufficient.

Dr. Emil G. Beck, Chicago: I think that leukocytosis is the underlying factor, and this is probably caused by bismuth subnitrate. I do not think that it is absolutely essential to use bismuth. Other substances may do, but so far I have found no good substitute. I have tried ten or fifteen substances, but none has proved satisfactory.

Use of the Wire Clamp in Operations for Goiter

Dr. Leonard Freeman, Denver: The wire clamp has a number of advantages: 1. It may be adjusted to almost any goiter, by bending the wires if required, although this is seldom necessary. 2. The control of hemorrhage nearly always is perfect, so that the gland may be sliced off beyond the clamp with absolute confidence. 3. The tissues are not crushed, but simply constricted as in the use of a tourniquet, which is of importance in exophthalmic goiter, at least. 4. There is no danger to the recurrent laryngeal nerves or to the parathyroids. Even if they should be caught in the grasp of the wires, which is unlikely, the compression would not be great enough to do them permanent injury. 5. There is no chance of the wires slipping from the stump after the gland is resected, because they are held in place by the loops passing through the base of the lobe. 6. The wires are much narrower than the blades of a pair of forceps and hence take up less room. I have used this method in twenty goiters of various kinds in which it seemed to be indicated. The operations proceeded easily, safely, without anxiety, and there were no fatalities.

Parosteal Callus: The So-Called Myositis Ossificans Traumatica

Dr. Oliver J. Fay, Des Moines, Iowa: I have seen six cases of traumatic intramuscular ossification; in four the brachialis anticus was the muscle involved, in two the vastus medius. In two cases the ossification followed a dislocation of the elbow, in three others a contusion was the determining factor, while in the remaining case there had probably been a rupture of the muscle. The youngest patient was 16, the oldest 50.

None of the four theories advanced to explain the pathogenesis of these intramuscular bone formations (the hemic theory, the theory of aberrant sesamoid bones, the theory of periosteal detachment or dissemination, and the theory of ossifying myositis) is entirely satisfactory. The first two have found but few supporters; the third does not explain muscle ossification in muscles not overlying the bone, while the fourth, so far as it assumes a hematogenous infection, lacks clinical evidence. Histologically, the bone mass is found to bear a close resemblance to the callus of fractures; the whole picture is that of a reparative process, the damaged connective tissue-cells having temporarily lost their differential function and become osteogenetic. Since the term "myositis ossificans traumatica" emphasizes the inflammatory rather than the reparative nature of the ossification, I prefer the appellation "parosteal callus."

The early symptoms are those of any contusion, but the functional does not keep pace with the objective improvement and an indurated mass becomes palpable. The roentgenogram is essential to differential diagnosis. Operation is indicated when there is functional disability or when the parosteal callus interferes with the blood- or nerve-supply. The prognosis is good unless there is periarticular ossification. An early operation must be radical and all damaged tissue removed to guard against a recurrence, but better functional results are obtained if the callus is allowed to "ripen." A conservative operation is then possible and the maximum amount of the muscle-tissue is saved.

Multiple Exostoses: A Hereditary Affection of the Bony Skeleton

Dr. Roger T. Vaughan, Chicago: All cartilaginous exostoses are congenital in origin, being demonstrable probably at birth, though usually not recognized by patients or clinicians till years later. The tendency to their formation is hereditary and transmissible. They are frequently accompanied by other developmental defects of the skeleton, some of which are characteristic of the affection. These tumors may be accompanied by congenital defects of other body structures.

Multiple cartilaginous exostoses, as a rule, are a harmless affection. The disturbances in the wrist- and elbow-joints are the most bothersome. On account of their location a few exostoses may become very burdensome, but they are rarely dangerous. Those exostoses which lock the joints may be removed. Neuralgia, paralysis, epilepsy, apoplexy, defective hearing, dystocia in labor and rupture of the uterus, exophthalmos, rupture of the popliteal artery with aneurysm formation, and also malignant degeneration have been described. In view of these severe, even if infrequent, complications and the considerable and not infrequent deformities occurring in this disease, the undesirability of the intermarriage of members of exostosis families in the light of Mendel's law should be recognized by physicians and eugenists.

DISCUSSION

Dr. A. A. Law, Minneapolis: We recently found in the Minnesota clinic that it is an absolute impossibility to differentiate these benign conditions in some cases from the extremely malignant osteosarcoma, with a mortality of practically 99 per cent. from metastases. A case in point prompts me to bring up this question. A boy in a football accident was kicked above the left patella. A month after the accident he had a typical fusiform, noninflammatory tumor, apparently in connection with or attached to the femur. Twenty roentgenograms were taken of the femur. We could not make the differentiation for the reason that the picture presented by the roentgenogram was that of osteosarcoma with feathery trabeculae about the femur. Exploration was finally resorted to, and the tumor was found to be inflammatory. There was a degenerating blood-clot.

Dr. Arthur E. Hertzler, Kansas City, Mo.: If we bear in mind that the ray-like processes in ossifying myositis run parallel to the fascia and muscle fibers, while in periosteal sarcoma the rays are fan-like, extending from the base of the bone in all directions, and not parallel to the muscle fibers, it will assist in the differentiation.

Dr. Emil G. Beck, Chicago: I have taken different bones and made stereoscopic pictures of them, and through the stereoscope we obtain very fine points, the three dimensions and the changes which on a single plate are very diffuse become concentrated. We can differentiate a sarcoma from a cyst or inflammatory condition by stereoscopic pictures.

Dr. M. L. Harris, Chicago: There are two other varieties of the so-called ossifying myositis. The traumatic variety develops at the point at which the muscle has a broad attachment to the bone, where there is no periosteum which can play a part in the process. It is very important in the diagnosis of osteosarcoma to remember that this condition never has a distinct, individual growth like a tumor. The growth is always limited, and when once the foundation is laid, never shows a progressive tendency. The original outline is seen in the early roentgenograms and appears to enlarge on successive plates.

Dr. D. S. Fairchild, Des Moines, Iowa: A boy, aged 20, received an injury to the elbow-joint. The nature of the injury was not known. The case had been treated as a fracture and the elbow-joint was kept in splints for some time. The patient was sent to a doctor in our community; roentgenogram was made, and the doctor proposed that something should be done at once to secure good motion in the elbow-joint. He operated but the result was not satisfactory. The patient came to me. I made the roentgenograms and found the conditions described by Dr. Fay.

Dr. James F. Percy, Galesburg, Ill.: I operated on a woman, now 45 years of age, about ten years ago for an extensive carcinoma of the right breast. She had no signs of recurrence for eight years, and then she returned with pain above the collar-bone and extensive swelling of the right arm. Examination showed that the subclavian vessels were probably being pressed on by this growth, and the skiagram revealed a growth springing from the fourth or fifth dorsal vertebrae, going up back of the lung and coming up inside of the collar-bone. I assumed that this was a recurrence in the bone of carcinoma. She has had in the neighborhood of 230 Roentgen-ray treatments. At present there is almost nothing to be seen of this growth.

Gas Bacillus Infection

Dr. W. D. Haines, Cincinnati: The intestinal tract is one of the normal habitats of the gas bacillus, and invasion of the adjacent cellular structures may take place through ulcer, malignant disease or perforation. An enormous abdominal distention from gas bacillus has been mistaken for postoperative dilatation of the stomach. In one case of infection of the scrotum and one of the arm, recovery followed free incision.

The *Bacillus aerogenes capsulatus* is anaerobic; therefore, success in the treatment will depend more on free exposure of the infected area than on any form of local or internal medication.

Fee-Splitting

Dr. Jabez N. Jackson, Kansas City, Mo.: This is a practice which leads to several indictments. It induces family physicians to betray the sacred confidences of their trusting patients and refer them not to those men who are most competent and who offer the greatest possibility of the saving of life and the preservation of health, but to men who pay for the victim. It lowers the dignity and value of the services of the family physician, who is presumably rendering valued services for nothing, and gives a magnified value to surgery, which is presumably receiving all. How much more exalted would be the standing of the general practitioner if people were taught to value his services in diagnosis and his responsibility in counseling surgery and recommending a surgeon and that they should pay for this service as they would for any other. It should be the privilege of the surgeon to aid the physician openly to secure this just compensation. As a rule the patient is robbed, paying two fees instead of one, as he supposes. Fee-splitting is the stepping-stone by which incompetent men secure business. It penalizes honesty in the young surgeon who is capable but must sit idly by and starve while his less competent competitor buys the business. It leads to many unnecessary operations with their attendant risk and expense performed merely because the patient can be induced to submit and has the price. It is a betrayal of trust, encourages dishonesty, breeds incompetency and should, in short, be held a crime.

(To be continued)

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Sixth Annual Meeting held at Atlanta, Ga., Dec. 16-18, 1913

The President, **Dr. John Young Brown**, St. Louis, in the Chair

Successful Suture of Stab-Wound in Right Ventricle of Heart

Dr. Joseph Danna, New Orleans: I removed the third, fourth and fifth costal cartilages and made a free incision of the pericardium, exposing the heart to full view. Manipulation of the heart was not attended with either shock or pain; the patient talked and felt comfortable during the process of suturing, sponging, etc. The heart can be steadied by forceps or sutures without harm. The placing of the sutures through and through did no harm in this case, although authorities advise not letting the sutures penetrate the endocardium. The pericardium was not drained, although this is also advised. The pleura was opened in getting the proper exposure, an accident which usually happens in these cases, but which I believe might have been avoided with care. In every case of wound of the chest, with signs of severe hemorrhage, in which the bleeding is believed to be the result of injury to the intercostal arteries, internal mammary artery or the heart or its coverings, operation should be performed. No case should be considered too far advanced for operation. If this is done a life will occasionally be saved.

Direct Suture of the Brachial Artery for Traumatism

Dr. J. Garland Sherrill, Louisville, Ky., reported a case of direct suture of the artery for traumatism, with restoration of the circulation, but with the subsequent development of ischemic paralysis.

Surgical Repair of Blood-Vessels

Dr. J. Shelton Horsley, Richmond, Va.: Blood-vessel surgery has four fruitful fields: (1) trauma of the vessels; (2) malignant growths that involve the blood-vessels; (3) aneurysms, and (4) transfusion of blood. In suturing vessels the same principle of approximating endothelium obtains as in suturing intestines—only the endothelium is on the *inside* of the vessel while on the *outside* of the bowel. So in suturing vessels a flange must be turned *out*, just as in suturing intestines it must be turned *in*. [Dr. Horsley then described his special technic of suturing blood-vessels.]

DISCUSSION

Dr. R. H. Hill, Montgomery, Ala.: I saw a case of a needle stuck in the heart of a little girl. The needle was removed under local anesthesia. The external end of the needle could be seen plainly under the skin with each movement of the aorta. In another case I assisted in removing the piece of a hatpin from the heart of a negro man. A man suffered no special inconvenience although his pulse was irregular as long as he occupied the upright position; but when he undertook to lie down he had considerable pain and great difficulty in breathing. The foreign body was removed by a modified Rotter operation. I also assisted in suturing the heart of a boy who was stabbed with a penknife.

Dr. Walter C. G. Kirchner, St. Louis: I have seen five cases of heart-suture and have operated in two myself. One of the patients on whom I operated recovered. It is important for the surgeon who is likely to have emergency work of this kind to have a definite plan of operation and a definite means of opening the chest, so that it can be opened quickly and without much confusion. Deep anesthesia is dangerous because when the chest is opened the lung does not work so well as when the patient is partially anesthetized. So it is better to use light general anesthesia or local anesthesia. The danger of pneumothorax has been overestimated.

Dr. Herman J. Boldt, New York: I should like to suggest that rectal anesthesia might well be substituted for general anesthesia in these cases.

Dr. Francis Reeder, St. Louis: The suture which I have employed is that, in place of the mattress-suture parallel with the plane of the intestine, I have taken the mattress-suture and placed it vertical to the axis of the vessel.

Dr. I. R. Stone, Washington, D. C.: I should like to ask Dr. Sherrill how much usefulness of the arm was preserved in the case he reported.

Dr. J. G. Sherrill: The patient had considerable power in carrying things on the forearm. He has some prehensile ability and can pick up things to a small degree with the fingers, but the result is not so satisfactory as I had hoped to obtain.

(*To be continued*)

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Fourth Annual Meeting, held in Washington, D. C., Nov. 14-17, 1913

(*Continued from page 66*)

The Ideal Obstetric Outpatient Clinic

Dr. Franklin S. Newell, Boston: Factors necessary for the establishment of such a clinic are: (1) a considerable class in the community who require free or practically free care; (2) an adequate supply of medical students who can provide such care under the supervision of a well-trained obstetrician, and (3) a well-equipped hospital in which all serious obstetric abnormalities can be cared for. The work of the outpatient clinic should be divided into three departments: prenatal care, the care of labor, and after-care.

Prenatal care should include (1) instruction in the hygiene of pregnancy; (2) repeated examination to determine the presence of abnormalities, and (3) visits at the patient's home to supplement the work of the clinic. Only patients believed to be normal should be cared for in the outpatient clinic. Abnormal cases should be referred to the hospital for care.

At the time of labor the patient should be instructed to apply to the outpatient station for a doctor at any time, night or day, as soon as labor begins. The work of the students in the outpatient clinic should be carefully supervised by a house officer attached to the clinic who is under the charge of a properly trained obstetrician. Definite rules should require that the student report to the house officer the progress on any case on which he is in attendance at given intervals. The student should be given as much responsibility in each case as is consistent with the well-being of the patient.

The after-cure of each patient should preferably be conducted by the student who has delivered the patient, supplemented by a nurse attached to the clinic, and the work of the student checked up by the house officer at definite intervals. No patient should be discharged from the clinic without being certified as being obstetrically well after a complete physicial examination by the house officer. In order to insure the best results each patient on discharge should be referred to the pediatric clinic for advice in the proper care of her infant. The expense of maintaining such an outpatient clinic is not prohibitive. Such a clinic can be made practically self-supporting by voluntary subscriptions by the patients, if the patients receive adequate care.

DISCUSSION

Dr. J. Whitridge Williams, Baltimore: I agree with Dr. Newell's conclusions, but think that the work should be organized along somewhat broader lines. It should include consideration of (*a*) the best method of caring for all women who need it; (*b*) the effect on the community; (*c*) its bearing on the education of medical students, and (*d*) its effect on advancing knowledge. In large cities the work is too extensive and diffused to be undertaken by one clinic and should be undertaken jointly by the city and the hospitals with the necessary number of substations. All women whose husbands have less than a certain minimum yearly income should be eligible for such care. The very poor should receive it gratis, while a second class should pay a small fee. To prevent abuse, cooperation with social service workers is essential, which might well be combined with the prenatal care. The community would benefit by having fewer invalid women, more well babies and no blind ones. The city would save money for the reason that it would be necessary to support fewer women in hospitals while being treated for avoidable consequences of childbirth. The midwife problem would eventually be solved.

The medical student should be trained to become a better and safer physician. The entire scheme would fail to produce the best results unless its direction were in the hands of broad-minded men, who are interested not only in caring for the women and their babies, but in actually advancing knowledge. One method would merely substitute male for female midwives, while the other would train a certain number of persons to be scientific obstetricians and productive investigators. This means that men with university ideals must be in charge of the work.

Dr. S. Josephine Baker, New York: I endorse any movement which will make for better care of mothers and babies in our large cities. There is a tendency in most of our city governments to assume more and more the attitude of so-called paternalism in regard to child-welfare movements, and it is possible that such a movement as this may come into being. When it does, it will do a great deal to solve our vexed midwife question and the question of the poorly prepared doctor, which is a very serious one in our big city; and it will help to solve the problem of the deaths from congenital debility. Unless we can reduce those, we cannot make much more of a reduction in infant mortality, particularly in those places where much work has been done in the last few years. On that account movements of this sort are attracting a great deal of attention to the desirability of prenatal care of pregnant women.

Dr. Gavin Fulton, Louisville, Ky.: For five years we have tried to establish an outpatient clinic in Louisville in connection with our child-welfare work. We think that prenatal care and proper obstetric care of the mothers are the most important phase of our work. We have finally made a start with a weekly clinic, for those who are able to pay as well as for the very poor. The dean of the medical school has made it financially possible for us to hire two small rooms, and the Babies' Milk Fund Association furnishes a nurse. The university sends us two students at a time, each of whom serves one month. We are trying to give each student ten cases.

Use of Vital Statistics in Preserving Infant Life

Dr. W. C. Woodward, Washington, D. C.: I wish to emphasize the utilization of vital statistics as a method of determining the extent of infant mortality, the direction that efforts should take to limit such mortality, and the efficiency of such efforts. This not only requires the utilization of existing systems of mortality and morbidity statistics so far as they relate to the ordinary communicable diseases, but requires an extension of the ordinary morbidity statistics so as to cover infantile diarrhea and possibly other diseases of infant life, even though such diseases are not recognized as communicable. In order to determine the direction that efforts toward the limitation of infant mortality must take, it will be necessary to have, in addition to morbidity and mortality statistics, certain sociologic statistics bearing on the ability of the parents to care for their offspring properly and on local sanitary conditions for which the city or state is responsible. These several groups of statistics, properly collated and analyzed, would undoubtedly promote efficiency and economy in the expenditure of effort and money for the prevention of infant mortality, and are essential to any rational effort along such lines.

DISCUSSION

Dr. S. Josephine Baker, New York: The birth-record is the starting-point of about 75 per cent. of our effective baby-saving work. Vital statistics are of value only so far as they are used. The use of the birth-certificate is mainly that of effectively reaching the mother as soon as possible after the baby is born. The great majority of babies who die during the first month could be saved if we could reach the mothers early. To be effective our registration should be made within forty-eight hours after the birth. Using the birth returns as they come in, it is possible to send a visiting nurse at once to see the mother and put her in touch with the various agencies which may be of service to her. Morbidity statistics are in many instances of such doubtful value that my experience has led me to be skeptical of them. I had occasion within the last few years to discount almost entirely the value of the analysis we make of various classes of disease causing death. Our returns on one occasion *showed a terrifying* increase in diarrheal mortality. The total number of deaths of infants was not any larger than it had been for the same period for the year before. A great decrease was noted in the deaths from congenital causes, and a marked increase in the deaths from diarrheal diseases. When we divided our mortality into that from institutions and dwellings, we found that this excessive increase was in one institution, a foundling asylum. A conference was held and one of the physicians of that institution said he could reduce that in fifteen minutes. He had read the book of the federal census bureau which said that malnutrition should not be accepted as a cause of death.

Dr. L. Emmett Holt, New York: Too many statistics are circulated that have for their main purpose inducing people to contribute to the support of some undertaking. I have in mind the report of an association as it is issued every week in New York. It gives the number of milk stations in operation and the number of children saved, the mortality among the children coming to the station being about 0.5 per cent. of the mortality of children treated in institutions. The conclusion to be drawn from these statistics is that the only way in which children can be saved is by going to that milk station. During the last year we have had a large proportion of intestinal cases referred to us from the milk stations. A large proportion of the patients died within twenty-four hours after they were referred. The inference is that the milk station keeps the children under observation until they see they are going to die and then turns them in to the institution to the discredit of the institution. One milk station published a report of serving 5,000 children with only one death in a month. That is absurd. It is dishonest. It leads one to distrust figures and hurts the cause of vital statistics.

Dr. Philip Van Ingen, New York: For the first time in the history of this country we have figures from widely scattered areas on mortality by age groups. In studying these one thing has been brought strongly home to me, and that is the necessity of uniform methods of tabulation. In Memphis you will find that while they had 350 deaths in one year, they had approximately between 30 and 32 per cent. under a month of which they had no records. I presume that they were tabulated as stillbirths and thrown out of the death records.

Mr. Lewis Meriam, Washington, D. C.: The federal children's bureau has been trying hard to make the subject of birth registration popular to the laity, and especially to the women of the country. Our method is to write to the state presidents of various women's organizations and get them to interest their members.

Mrs. William Lowell Putnam, Boston: The registration of still-births is a very important matter, and one which is very much overlooked. If the still-births were correctly reported and registered and counted as still-births, I cannot but feel it would have more to do than anything else in bringing before the public the importance of prenatal care. We have been doing this work for four and a half years. For the last two years we have found still-births to be 18.6 per thousand. In the city of Boston they have been 39.3 for the last year and 39.9 for the year before. We have also been able to reduce the percentage of premature births. Last year we had only 0.4 per cent. of premature births, and we feel that that must redound toward the health of the children.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany Medical Annals

December, XXXIV, No. 12, pp. 701-759

1 Acidosis. T. W. Jenkins, Albany, N. Y.
2 Pituitrin Therapy. H. F. Albrecht, Green Island, N. Y.
3 *Infant Mortality.* H. L. K. Shaw, Albany, N. Y.

American Journal of Anatomy, Philadelphia

November, XV, No. 3, pp. 253-379

4 Experimental Study of Position of Optic Anlage in Amblystoma Punctatum, and Certain Eye Defects. C. R. Stockard, New York.
5 Breeding Habits, Maturation of Eggs and Ovulation of Albino Rat. W. B. Kirkham and H. S. Burr, New Haven, Conn.
6 Human Embryo of Thirteen Somites. I. E. Wallen, New York.
7 *Nerve Supply to Pituitary Body. W. E. Dandy, Baltimore.
8 *Morphogenesis of Mammalian Ovary: Felis Domestica. B. F. Kingsbury, Ithaca, N. Y.

7. **Nerve Supply to Hypophysis Cerebri.**—According to Dandy, the nerve supply to the pituitary body is from the carotid plexus of the sympathetic system. Numerous branches radiate to the stalk along the hypophyseal vessels and are immediately lost to view in the substance of the anterior lobe. The posterior lobe nerve supply is very scant, in marked contrast to the extensive innervation of the anterior lobe. The pars intermedia receives its nerves from the stalk. There is connection between the carotid sympathetic system and the oculomotor and optic nerves. The absolute differentiation between secretory and vasomotor nerves is, Dandy says, a matter of much dispute and is impossible. The impression, however, from the character and course of the nerve fibers, their greatly increased number in the region of the hypophysis, and their disappearance at a distance from the hypophysis, the differences between the supply of the anterior and posterior lobes, the connection established with the other cranial nerves, lead us to regard them as secretory, in contradistinc-

tion to vasomotor, the existence of which in the cranial chamber has not been observed.

8. **Morphogenesis of Mammalian Ovary.**—Sixty cat ovaries were studied by Kingsbury. The results of his investigations may be stated as follows: In the development of the ovary of a cat, growth is mainly peripheral and marginal. Differentiation therefore follows centrifugally. The epithelial elements (parenchyma) occur in the form of cords. Medullary cords and egg cords are not to be sharply distinguished. The growth determines the appearance of fairly definite zones: (*a*) cortical, (*b*) intermediate, (*c*) epithelial stromal. Degenerations occur throughout the period of growth and in the adult period. In general, the degenerations follow a centrifugal course. The stroma obviously plays an active and important part in ovarian growth. The primitive cortex is interpreted as directly forming the definitive cortex containing the primary follicles. No evidence was found of a new formation of ova just prior to sexual maturity. Profound degeneration of the early formed Graafian follicles occurs, being most marked before the advent of sexual maturity. Polar spindles, polar body formation and fragmentation (abnormal cleavage?) occur particularly in the atresia folliculi preceding sexual maturity. The Graafian follicles of the adult period are of a somewhat different type as compared with those of the growth period (presexual). Intergradation is, however, obvious.

American Journal of Roentgenology, Detroit, Mich.

November, I, No. 1, pp. 1-47

9 Radiography of Stomach and Intestines. C. L. Leonard, Philadelphia.

Bulletin of American Academy of Medicine, Easton, Pa.

December, XIV, No. 6, pp. 383-445

10 Schoolhouse as Crime Contributor. E. C. Elliott, Madison, Wis.
11 Physical Bases of Crime: From Standpoint of Judge of Juvenile Court. E. F. Waite, Minneapolis.
12 Physical Bases of Crime as Observed by Prison Physician. R. Sleyster, Waupun, Wis.
13 Crimes of Adult from Standpoint of Alienist. F. W. Robertson, New York.
14 Physical Basis of Crime. Z. B. Brockway, Elmira, N. Y.

Medical Record, New York

December 27, LXXXIV, No. 26, pp. 1151-1208

15 *Few Practical Observations the Result of 8,000 Examinations of Urine. W. Muhlberg, Cincinnati, Ohio.
16 Solving Mystery of Bright's Disease. J. Aulde, Philadelphia.
17 *Treatment of Pneumonia by Bacterial Vaccines. H. A. Craig, New Brighton, N. Y.
18 Determination of Changes in Pain Sensation. G. F. Boehme, New York.
19 *Progeny of Tubercle Bacillus. S. J. Maher, New Haven.
20 Appendical Infection, with Abscess Formation; Should Appendix Be Removed at Primary Operation? G. S. Foster, Manchester, N. H.
21 *Action of Acetic Acid on Syphilitic Blood-Stains. F. Sorgatz and R. Bolend, Oklahoma City, Okla.
22 Medical Inspection of Immigrants at Ellis Island. E. H. Mullan, New York.
23 Eye-Strain. L. E. Barnes, Chicago.

January 3, No. 1, pp. 1-46

24 New York Laryngological Society. C. Wagner, Paris, France.
25 Laryngology in New York. D. B. Delavan, New York.
26 Unresolved Pneumonia. J. S. Thacher, New York.
27 Acute Appendicitis in Infancy and Childhood. W. G. Vincent, New York.
28 Genital Fistulas in Female. C. J. Drueck, Chicago.
29 Uses and Abuses of Salvarsan and Mercury in Syphilis. E. C. Burrows, New York.
30 Effect of Typhoid Vaccine on Sugar Output in Diabetes. F. A. Prendergast, Brooklyn.
31 Subpectoral Abscess. C. Legiardi-Laura, New York.
32 Refrigeration with Ice in Treatment of Intercostal Neuralgia. P. Romeo, Kansas City.

15. **Urine Examinations.**—There is no doubt in Muhlberg's mind that diabetes is increasing in prevalence and he attributes this partly to the increased nervous stress of modern life and partly to the tendency toward over-eating and lack of exercise. The death-rate from this affection has gradually crept up from the year 1900, during which year the deaths are represented on a 100 per cent. basis, to 142 per cent. during the year 1909. And this has occurred in spite of the earlier recognition, the marked results from improved therapeusis and gradual unfolding of the true pathology of this affection through the splendid researches of pathologists and clinicians. Like arteriosclerosis, diabetes seems to be making its ravages among the better element of the population and therefore is particularly noticeable among insurance risks. Sugar is found in a greater percentage of samples at present than six or seven years ago. Muhlberg employs the Fehling method recommended by Dr. Ogden and in his opinion it is the best.

He concludes as follows on this topic:

> In spite, however, of our careful instructions, we find that even our best examiners will fail to detect sugar in urine containing less than ½ per cent. and the difficulty arises from imperfect technic and the confidence that most examiners have that the operation is too simple to admit of mistakes. It must be confessed that the detection of small amounts of sugar varying from 1/10 to 1/4 per cent. is not easy, especially since concentrated normal urine, sugar free, will at times show a reduction of Fehling's equivalent to 1/4 per cent. of sugar. We have practically discarded the phenyl hydrazin test as a check against our Fehling's. For some reason or other—and this observation is not at all original—phenyl hydrazin will occasionally fail to precipitate the typical osazone crystals even where pathological amounts of sugar are present. In our experience, the osazone compound is probably formed but fails to crystallize and the absence of the typical crystals leaves one in doubt. Instead, we are using the fermentation test. It, too, has its shortcomings, inasmuch as the degree of acidity of the urine and the presence of sugar in the yeast itself slightly influence the findings. But we have found that it is sufficiently delicate—less than 1/10 per cent. can readily be detected thereby.

17. **Bacterial Vaccines in Pneumonia.**—The best method of procedure, in Craig's experience, is to administer a polyvalent stock vaccine of the pneumococcus and streptococcus, of each thirty million, at as early a date as possible. Make sputum smears and cultures, blood cultures in early cases, lung puncture in late ones, and proceed to the preparation of an autogenous vaccine. If there is no definite response in 24 or 48 hours, repeat or preferably give an autogenous vaccine. If there is no response in 36 or 48 hours, double the dose. If there is a response, as evidenced by improved clinical symptoms and signs, increased well-being of the patient, etc., defer reinoculation three days or until the first symptoms of retrogression in the general condition or the physical signs occur. Maintain the dosage or increase it every two or three days until the patient is entirely well. Generally about three doses are necessary.

Craig has found them to be an improvement on all other methods of treatment. Vaccine treatment, properly carried out, is capable only of good. Hundreds of cases have been reported with an average mortality of 5 to 10 per cent. The mortality from the old routine treatment is still 16 to 20 per cent. and in alcoholic cases, nearly 50 per cent. in some epidemics. In twenty consecutive cases, seen by Craig in private practice, there was but one death. In hospital practice as a rule, the cases are not seen early enough.

In considerably over a hundred patients treated, Craig has observed that the disease runs a shorter course, the patients are less toxic, there is less fever, and generally no delirium occurs except in alcoholic cases. Convalescence also is shortened and the danger of complications is lessened. Best of all, more of the patients get well.

19. **Progeny of Tubercle Bacillus.**—Mixed infection in tuberculous areas, in Maher's opinion, is caused, not by the invading of these areas by bacteria from the outside, but by the development in these areas of the bacterial progeny of the struggling tubercle bacillus. He explains this as follows: Old tubercle bacilli alive in a moist, somewhat, unfavorable environment, swell or elongate and become markedly granular, lose more or less of their acid-fast resistance, and fuse together into a poorly acid-fast granular or homogeneous matrix. Subcultures from this matrix on various media not quite suitable for tubercle bacilli develop poorly acid-fast or non-acid-fast bacilli or cocci, which have no longer the power of causing tuberculosis in injected animals, but have the power of increasing the virulence of simultaneously injected tubercle bacilli.

From this matrix of fused old tubercle bacilli can be developed bacterial forms similar to Much's coccal granules, Foulerton's streptothrical forms, Dixon's branching forms, and Ferran's rod forms. From this matrix it is possible to grow coccal and bacillary forms that vary in morphology, in acid resistance, and in chromogenic power, according to the variance in the age and vegetative energy of the tubercle bacilli that composed the matrix, and according to the variance in the technic to which the matrix is subjected. All of these derivatives of tubercle bacilli are very tender. They need constant watching. Many of the first sub-cultures die without apparent reason. They are very sensitive to environment. After they have grown for a few generations at 37 C., or at room temperature, they will not grow well at any other. In sub-cultures they all grow best on glycerinized media.

All non-acid-fast coccal and bacillary derivatives of the tubercle bacillus are Gram-negative. One of the most striking and suggestive methods of developing the non-acid-fast or partly-acid-fast bacterial forms from tubercle bacilli is to grow the tubercle bacilli on glycerin broth in air-tight flasks for two or three months at 37 C., and at the end of that time to remove the seals, substitute sterile cotton plugs, and put the flasks at 22 C. or thereabouts. If the scum is so dense as to shut off the air from the supporting medium, it is desirable to break up the bacillary crusts by gentle shaking of the flask on a few successive days.

Maher has been working with six different strains of human tubercle bacilli—three from pulmonary tuberculosis, one from bone tuberculosis, one from scrotal tuberculosis, and one from glandular tuberculosis. From all of these strains he has been able repeatedly to secure the coccal and bacillary non-acid-fast, gram-negative forms, that did not curdle milk, that usually crackled in the flame, and were identical in every way with the forms found in pure tuberculous sputum, and in the pus from tuberculous lymph-nodes. From none of these six strains of human tubercle bacilli has he been able to grow any of the five large rosaries of streptococci that are so abundant in certain cases of apparently pure tuberculous sputum. But in the first cultures of coccal and bacillary derivatives of tubercle bacilli the water of condensation in the glycerin-agar tubes invariably contains some of the new organisms in chains. And when the coccal derivatives are grown in glycerin-broth or sugar-broth the tendency to grow in chains is very marked. In cultivating in liquid media the older, partly decapsulated bacillary derivatives, it is difficult to keep these granular rods from elongating into streptococcal filaments.

From tuberculous pus, which on microscopic examination showed only long granular tubercle bacilli, Maher claims to have repeatedly grown pure cultures of a beautiful streptococcus, which at first contained in every chain one or more acid-fast granules, evidently akin to the granules in the tubercle bacilli of the pus. On sub-cultures these chains were entirely non-acid-fast. When injected into tuberculous guinea-pigs, these streptococci caused marked focal reactions, and in two series of experiments seemed to have some beneficial influence over guinea-pig tuberculosis.

21. **Action of Acetic Acid on Syphilitic Blood-Strains.**—The purpose of the test described by Sorgatz and Bolend is to demonstrate what they believe to be a relative increase of resistance of the red blood-cells of luetic individuals to hemolytic agents as compared with normal cells. For this purpose they use drops of suspected blood received on filter paper, controlled by normal specimens obtained at the same time and treated in an identical manner.

The reagents used are pure methyl alcohol for fixing the specimens and glacial acetic acid for demonstrating the hemolysis. The latter must be pure, freshly solidified by cold and diluted with freshly distilled water, the dilutions being six in number, namely, 1/5,000, 1/7,500, 1/10,000, 1/12,500, 1/15,000 and 1/20,000, respectively. The blood is obtained preferably from the finger, as the flow can be more readily controlled. It is received on filter paper in drops not more than 3 mm. in diameter. The droplets are cut from the filter paper in such a manner as to show the drop in the center of a small square or oblong of the paper. This must be small enough to enter the test-tube readily. Six such specimens are obtained from each paper and dropped into the test-tubes by means of the forceps. The fingers must not touch the squares and the test-tubes must be clean and dry. The suspected specimens are placed in tubes 1, 3, 5, 7, 9 and 11 and the normal in 2, 4, 6, 8, 10 and 12. The dilutions are now placed in the tubes by means of the pipet, beginning with the highest dilution, 1/20,000, which is placed in tubes 11 and 12, a sufficient amount being used to immerse the papers and an equal number of drops in each tube. The 1/15,000 dilution in then placed in tubes 9 and 10, 1/12,500 in tubes 7 and 8 and so on, the original number of drops being adhered to and the pipet washed in distilled water and thoroughly shaken out before the next is used. The tubes are then slightly agitated to dispose of air bubbles and the rack is placed in a good light to observe the reaction.

The drops of normal blood will begin to disappear almost at once in the stronger dilutions, while the suspected specimens, if positive, will retain their color in a degree corresponding to the activity of the luetic condition. Strongly positive specimens will not be acted on by even the 1/5,000 dilution, while weakly positive ones will resist the 1/15,000 and perhaps the 1/12,500 dilutions, and so on through the various gradations. The reaction should be kept under constant observation for twenty to thirty minutes and the rack should not be agitated as the discoloration of the solutions by the hemoglobin is likely to cloud the appearance of the papers.

The authors state that the test should not be depended on in the absence of ample clinical evidence of syphilis or a careful Noguchi or Wassermann test.

Military Surgeon, Washington, D. C.

December, XXXIII, No. 6, pp. 503-594

33 Sanitation of Second Division, U. S. Army, at Texas City and Galveston, Texas, March 1 to July 31, 1913. R. B. Miller, U. S. Army.
34 Emetine in Dysentery. F. M. Hartsock, U. S. Army.
35 Leprosy in Hawaii. G. W. McCoy, Washington, D. C.
36 Ambulance-Travois System of Transporting Wounded on Battlefield. W. W. Reno, U. S. Army.
37 Sanitary Data Concerning International Troops Serving under Similar Conditions in North China. A. N. Stark, U. S. Army.
38 Malta Fever in United States. C. E. Yount, U. S. Army.

Modern Hospital, St. Louis

December, I, No. 4, pp. 207-270

39 Organization of Departments of Large General Hospital. R. Norton, Baltimore.
40 Some Special Features of New Cook County Hospital. R. E. Schmidt, Chicago.
41 Function of Modern Hospital in Preventive Medicine. H. S. Mathewson, Portland, Me.
42 Hospital Waste and Its Disposal in Small Institutions. E. A. Greener, Muskegon, Mich.
43 Hospital Attitude Concerning Publicity through Newspapers. N. Maul, New York.
44 New Nurses' Home at Massachusetts General Hospital. F. A. Wasnburn, Boston.
45 Large Part of Hospital Work Performed in Home. R. M. Bradley, Boston.
46 Proposed Change in Form of Hospital Vital Data. F. L. Hoffman, New York.
47 Complete Equipment of a One Hundred Bed Children's Hospital. E. Burgess, Chicago.

New Jersey Medical Society Journal, Orange

December, X, No. 7, pp. 329-382

48 Reeducation of Disturbed Locomotion. A. Gordon, Philadelphia.
49 Some Indications for Cesarean Section. E. T. Steadman, Hoboken.
50 Some General and Special Points in Diagnosing in Infants and Children. T. N. Grey, East Orange.
51 Therapy of Internal Secretions. G. W. Cummins, Belvidere.
52 Treatment of Psoriasis. W. S. Devausney, Newark.

New Mexico Medical Journal, Las Cruces

December, XI, No. 3, pp. 81-112

53 Preventive Surgery. J. A. Colbert, Albuquerque.
54 Case of Failure of Respiration during Ether Anesthesia. E. E. Morrison, Great Bend, Kan.
55 Difference in Attitude of Eastern and Western Physicians toward Tuberculosis Problem. A. M. Foster, Colorado Springs.
56 New Method of Treatment for Tubercular or Mixed Infection of Lymph-Nodes of Neck. F. W. Noble, Albuquerque.
57 Conduct of Normal Labor through Parturition. W. Howe, East Las Vegas.

New York Medical Journal, New York

January 3, XCIX, No. 1, pp. 1-48

58 Why is Nasal Catarrh So Prevalent in United States? W. Freudenthal, New York.
59 Treatment of Poliomyelitis by Operative Measures. G. G. Davis, Philadelphia.
60 Sella Turcica in Some Epileptics. L. P. Clark and E. W. Caldwell, New York.

61 Alcoholism in Relation to Heredity of Epilepsy, Consumption and Other Nervous Diseases. T. J. Mays, Philadelphia.
62 Treatment of Traumatic Rupture of Urethra. C. G. Cumston, Geneva, Switzerland.
63 Why Electrotherapy Does Not Cure. A. C. Geyser, New York.
64 Diagnosis of Early Clinical Pulmonary Tuberculosis. L. Shalet, New York.
65 Prevention of Insanity. R. A. Goodner, Anna, Ill.
66 Mixed Chancre. S. Steiner, New York.
67 Roentgen Rays in Eczema of Hands. F. Wise, New York.

Northwest Medicine, Seattle, Wash.

December, V, No. 12, pp. 329-358

68 Present Knowledge of Bone with Reference to Infection and Use of Bone as Transplant. A. J. Hosmer, Salt Lake City.
69 Goiter: Relation of Its Symptoms and Pathology. C. H. Mayo, Rochester, Minn.
70 Public Health Laboratory and Its Relation to Physician, Health Officer and Public. B. L. Arms, Portland, Ore.
71 Treatment of Cauliflower Ear. D. H. Palmer, Seattle, Wash.
72 Symptoms and Treatment of Gastric Ulcer. F. A. Speik, Los Angeles.
73 Surgical Diseases of Duodenum. A. W. Morton, San Francisco.
74 Vaccine Therapy. A. M. Newton, Pocatello, Idaho.
75 Gonorrhea Cured through Use of Heated Bougie. J. A. Fulton, Astoria, Ore.
76 Mycosis Fungoides. C. M. Cole, Caldwell, Idaho.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

December, XVII, No. 6, pp. 253-305

77 Grave Symptoms of Serious Involvement of Brain in Early Stages of Syphilis. J. E. McClelland, New York.
78 Mosquito in Politics. S. W. Dickinson, Marion, Va.
79 Hysteric Polypnea. N. T. Ennett, Richmond, Va.
80 Streptococcic Nephritis. J. M. Tompkins, Richmond, Va.

Southern Medical Journal, Nashville

December, VI, No. 12, pp. 763-828

81 *Shock: Its Nature and Management. F. W. Parham, New Orleans.
82 Cancer Problem. W. A. Bryan, Nashville.
83 Duties of a Physician as Consultant to Attending Physician and to Patient. G. E. Henson, Jacksonville, Fla.
84 Have We a Specialty of Medico-Psychology? J. T. Searcy, Tuscaloosa, Ala.
85 *In How Far Has the Doctrine of Cleanliness and Public Health Permeated Medical Profession? C. W. Stiles, Washington, D. C.
86 Plea for More Accurate Administration of Roentgen-Ray in Treatment of Skin Diseases and Cancer. C. A. Simpson, Washington, D. C.
87 *Intravenous Injections of Strophanthin in Cardiac Insufficiency. T. Truelsen, Tampa, Fla.
88 *Proctoclysis—Experimental and Clinical Study. H. H. Trout, Roanoke, Va.
89 Anesthetics. P. O. Chaudron, Dothan, Ala.
90 Epithelioma of Cheek—Excision with Glands of Neck-Plastic for Cure of Defects—Recovery. G. T. Tyler, Greenville, S. C.
91 Cystoscope in Surgical Diagnosis. J. K. Simpson, Jacksonville, Fla.
92 Depressed Fracture of Skull Involving Superior Longitudinal Sinus. C. C. Hightower, Hattiesburg, Miss.

81. Shock: Its Nature and Management.—By correctly estimating the powers of the patient, avoiding all officious meddling, doing well but quickly what must be done, having, as Sir James Paget expressed it, "the courage to do little," when to do more would be harmful, having always in mind the first object of the humane operator, the saving of life rather than the performance of a successful operation, only thus, says Parham, may we hope to avoid witnessing on the operating table the sad spectacle of shock. Parham discusses this interesting subject in great detail, citing freely from the literature.

85. Doctrine of Cleanliness and Public Health.—Experience forces Stiles to the conclusion that there is not an inconsiderable number of physicians in practice who have exceedingly elementary ideas on the subject of cleanliness. He says that an entire book could be written on the condition of the privy one finds at the home of the average physician in small towns and in rural districts. In by far the majority of instances Stiles has seen, these guardians of the life of human beings have the common surface privy, open in the back, scattering soil pollution, breeding flies, and thus providing human excreta as condiment to the food consumed by themselves, their families and their neighbors. The moral to the tale is, he continues, that resolutions adopted by these gentlemen as to the necessity for any given plan of public health legislation are somewhat lacking in weight of professional authority. Some of them seem to think that the only way to bring about a public health reform—much needed as it is—in this country is to put a physician in the president's cabinet. Without taking any stand as to the advisability of the existence of such a cabinet official, Stiles suggests that a full time county health officer who will, among other things, compel these gentlemen to clean up their offices, operating rooms, and privies, and force them to stop spitting on the floor, might contribute somewhat to a reduction of the death-rate. Stiles cites some forceful personal observations.

87. Intravenous Injections of Strophanthin.—The initial injection of strophanthin advocated by Truelsen is a tentative one, and should not exceed 0.5 mg. A lower initial dose must be employed if the injection follows digitalis medication. Also three or four days must be allowed to elapse before giving this injection under these circumstances. If it can be ascertained that pulse, respiration and diuresis are favorably influenced, even though it be slightly and for a short time only, then one is justified in expecting from subsequent larger injections a repetition and augmentation and a continuance of its specific action. In some cases the initial injection will fail to show measurable improvement on pulse, respiration and diuresis, but the subjective improvement, as relief from dyspnea or oppression, or a natural refreshing sleep, etc., will warrant repeated and increased injections. In order to prevent cumulative effects, injections must not be repeated within twenty-four hours. A safe rule regarding repetitions is not to make another injection until the benefits obtained from the previous one are no longer maintained. During the earlier period of the course three to four injections a week; later perhaps only one will be found necessary. The average dose is 1 mg. and should only be exceeded in full realization that *one* is using a powerful drug.

88. Also published in *Surgery, Gynecology and Obstetrics*, May, 1913.

Surgery, Gynecology and Obstetrics, Chicago

December, XVII, No. 6, pp. 645-710

93 *Mobilization of Ankylosed Joints. N. Allison and B. Brooks, St. Louis.
94 *End Results of Attempts to Mobilize Stiffened Joints. R. B. Osgood, Boston.
95 Cholecystectomy. J. B. Deaver, Philadelphia.
96 *Drainage of Upper Intestinal Loop for Relief of Ileus: Based on Eight Cases Successfully Operated and Animal Experimentation. C. H. McKenna, Chicago.
97 *Preliminary Report on Experimental Bone and Periosteal Transplantation. W. L. Brown and C. P. Brown, El Paso, Tex.
98 *Factors Influencing Mortality of Suprapubic Prostatectomy. H. Cabot, Boston.
99 Early Diagnosis of Cancer of Esophagus. W. Meyer, New York.
100 Renal Function. B. S. Barringer, New York.
101 *Ovarian Pregnancy Located in Graafian Follicle. F. P. Mall, Baltimore, and E. K. Cullen, Detroit.
102 *Malignant Disease of Testicle Retained within Abdominal Cavity. K. Bulkeley, New York.
103 Educational Work in Carcinoma of Uterus. H. C. Taylor, New York.
104 Lesions of Hypophysis from Viewpoint of Surgeon. C. H. Frazier, Philadelphia.
105 Problem of Intestinal Stasis. A. E. Rockey, Portland, Ore.
106 *Operative Treatment of Acute Gonorrheal Epididymitis. J. H. Cunningham, Boston.
107 Protective Mastoid Operation: An Operation of Election. *W. S. Bryant, New York.*
108 Falciform Ligament of Liver as Plastic Material Available for Use in Upper Abdomen. R. T. Miller, Pittsburgh, Pa.
109 *Postural Treatment of Postoperative Abdominal Adhesions. L. H. Reichelderfer, Washington, D. C.
110 Selection of Anesthetic on Basis of Its Ultimate Physiology. R. C. Coburn, New York.
111 *Modification of Rectus Fascial Flap in Inguinal Hernioplasty. G. B. Rhodes, Cincinnati.
112 Laparotomy Towel. H. J. Vanden Berg, Grand Rapids, Mich.
113 Applying Skin Sutures. W. Van Hook, Chicago.

93. Mobilization of Ankylosed Joints.—In all the experiments made by Allison and Brooks, the process of healing of the joint surfaces from which the cartilage was removed was the same. Following the injury the ends of the epiphyses acted in a manner strikingly different from that seen after injury to the diaphyses. There was very little new bone formation from the denuded bone area at the end of sixty days. The new bone formation seen was always under the joint cartilage which had not been removed. The denuded joint surfaces were at the end of five days covered with granulation tissue which grew from the marrow spaces. This granulation tissue developed into fibrous tissue. With two denuded joint surfaces approximated directly the granulation tissue united the two surfaces. This process obviously leads to a fibrous ankylosis, which, according to Hoffa, is the primary stage of osseous union.

With the interposition of fascia lata, either in free pieces or in pedunculated flaps, the direct union of the denuded joint surfaces was prevented only in case the fascia transplant underwent necrosis and absorption. In those instances in which the transplanted fascia persisted in parts, the persistent islands acted as adhesions between the joint surfaces. In the experiments with fascia there was no evidence of any advantage of a pedunculated transplant. On the contrary, in each instance the pedicle persisted as an intra-articular band which checked joint movement. With the fascia fixed and impregnated with silver, the union of the denuded joint surfaces was prevented. The more irritating chromicized pig's bladder membrane always led to a much greater amount of fibrous tissue formation, and the fibrous tissue formed in every instance more or less completely united the opposed joint surfaces.

The relatively small amount of new bone formation from the ends of the bones in the joint, the authors believe, makes the prevention of union between raw joint surfaces a problem which is identical with that of cavity production in soft parts. With the transplantation of living tissue into soft parts, in case the transplant preserves its vitality, it heals in the tissues without cavity formation. If the insert undergoes necrosis and absorption, or is an absorbable, non-living substance which excites very little inflammatory reaction, it disappears, leaving a cavity. If the insert is of such a nature as to set up a marked inflammatory reaction, the tendency of the process is to close the cavity occupied by the insert in a manner similar to the closing of an abscess cavity.

94. **Attempts to Mobilize Stiffened Joints.**—In the majority of cases the results of the attempts at the mobilization of stiffened joints which have been made by Osgood have been far from satisfactory. He is inclined to believe, in the light of his experiences, which he believes may be duplicated in the hands of other surgeons, that unilateral, painless, bony ankylosis of the knee, hip, shoulder, and possibly elbow, should be submitted to arthroplastic operations at the present stage of our technic only after a free discussion with the patient and a realization on his part of the prolonged and often painful after-treatment, and the somewhat uncertain nature of the results. He urges as far as possible the concentration of these cases in the hands of a few men, preferably only one in a city, who will fit himself by study to be at least conversant with the most successful methods.

Osgood reports results of 18 arthroplastic operations, 6 on the hip with good results in 1, 7 on the knee with good results in 3, 4 on the elbow with good results in 1 and 1 on the jaw, which was successful. He used to prevent ankylosis recurring, either chromicized pig's bladder as recommended by Baer or pieces of free fascia removed from the fascia lata at the time of operation. In two of the hip cases he turned in pedunculated flaps of tissue. In only one case has any considerable inflammatory reaction followed the use of the pig's bladder membrane, but in every case there has been a slight discharging sinus, sometimes coming on as late as three weeks after the operation and often persisting for months. In three cases the membrane itself, in whole or in part, has been extruded several weeks after the operation; but that has not seemed to interfere with persisting mobility. In the cases in which free fascia flaps have been used, the healing has been by first intention, and no sinuses have occurred except in the one case of a tuberculosis developing in the operated elbow six months after the arthroplastic operation. Although generous portions of fascia lata have been excised (4 inches square) there has been no subsequent muscle hernia or any evident weakness.

Osgood concludes his paper as follows:

> I confess the end results of some of the cases have given me pause. When we obtain a joint with useful motion persisting for six months and then gradually see this motion disappear, in spite of careful after-treatment, owing to joint sensitiveness and to soft part contractures, and when we may watch the overgrowth of bone about our seat of operation continue for long periods, we owe it to our patients to explain these possible contingencies until we know how to surely prevent them. Payr has wisely said that we must carefully select our cases both in relation to occupation, social status *and temperament, before we attempt by the methods now* advocated to mobilize stiffened joints, and the writer would add that in addition to this selection our prognoses should be most guarded as to painless or useful motion and as to function.

96. **Drainage of Upper Intestinal Loop for Ileus.**—The toxic element, McKenna believes, fully explains the cause of death in acute bowel obstruction. He is of the opinion that when the physiologic balance of the normal intra-enteric secretion (the secretion from the duodenal mucosa, probably from Bruner's glands) is disturbed, the secretion becomes profoundly toxic, and unless this physiologic balance is quickly restored, a fatal termination surely and swiftly ensues. In other words, any influence that leads to an upper intestinal paresis sufficient to stop peristalsis, blocks the normal flow of the duodenal secretion as effectively from the point of view of ileus, as if the gut were mechanically closed. He is of the opinion that the duodenal stasis produced by paresis of this portion of the gut may be compared to the duodenual stasis produced in the dog by closing the lower end of the duodenum.

The blocking up of the duodenal secretion may become a fatal factor in one of two ways: First, by direct absorption into the blood of a powerfully toxic substance; second, because of the improper mixture between the secretion of the duodenum and the secretion from the lower intestinal tract. McKenna has up to the present successfully operated eight cases of acute bowel obstruction, by enterostomy. In the early cases it was more chance than any other factor that led him to make an enterostomy high in the small intestine. At any rate, the opening was made high enough so that by means of long catheters introduced into the bowel, pancreatic secretion was poured out on the abdominal wall.

The presence of pancreatic secretion was first detected because of the very marked excoriation produced on the skin. In these cases, and in subsequent cases, McKenna noted a relationship between the welfare of patients and the presence of pancreatic secretion at the intestinal opening. The presence of pancreatic secretion at the site of the enterostomy proved the presence of duodenal secretion. The operation of enterostomy which is always performed under local anesthesia, is made well above and to the left of the umbilicus as this location gives entrance to the abdominal cavity at a point where the upper portion of the jejunum can be picked up most accurately.

McKenna always picks up the first loop of small intestine that presents itself at the site of the opening, which he believes in a large percentage of cases will give a loop of small intestine well up in the jejunum. Whether this operation be performed by the suture method or by a mechanical device, two principles must obtain to insure success—accurate and immediate approximation of the serous covering of the bowel to the cut edge of the skin and drainage of the upper loop of intestines, at least, by means of a tube. McKenna has also *adopted a definite plan in closing the intestinal* fistula. A resection of the fistula with a lateral anastomosis of the intestines is made.

97. **Bone and Periosteal Transplantation.**—The authors were unable in any experiment to reproduce bone from free periosteal transplants into the subcutaneous tissue and muscle. They were unable to reproduce bone in the periosteal flap raised, left in contact with the bone, passed through muscle and again contacted with periosteum, with one single exception where there was a small nodule of bone formed apparently in the free end of the flap, corresponding to another nodule formed on the shaft of the bone opposite, leading them to believe that the bone in the tip of the free periosteal flap was osteoblasts raised from the corresponding area on the shaft of the bone and also because no bone had formed

anywhere else in the flap. They were unable to reproduce bone in any experiment from free bone transplants, without periosteum, into the subcutaneous tissue and muscle, regardless of the age of the transplant. Absorption was the rule in every case. They were unable to reproduce bone in a single experiment where bone was transplanted free, periosteum left intact, into the muscle or subcutaneous tissue. These transplants were uniformly absorbed. They were uniformly able to reproduce bone when transplanted and contacted with living bone, if it were in position where it had a function to perform. Other necessary conditions being present for its reproduction, bone reproduces bone without the aid of periosteum. The transplants that were contacted with living bone and had no function to perform were inclined to absorption. While periosteum may be an aid to the life and growth of bone, the authors were not able to prove in any experiment that it was at all essential.

98. **Mortality of Suprapubic Prostatectomy.**—Cabot urges strongly the importance of paying attention to the three important factors at present influencing the mortality of suprapubic prostatectomy: the anesthetic, the production of shock by traumatic operating, and the inefficient control of bleeding. When these factors are reduced to a minimum as sources of danger, suprapubic prostatectomy will be the method of election for all cases of adenomatous enlargement of the prostate, and the perineal operation will have passed quietly into history.

101. **Ovarian Pregnancy Located in Graafian Follicle.**—The specimen examined by Mall and Cullen showed conclusively that the ovum had lodged itself in the Graafian follicle, undoubtedly in the one from which it came, indicating that the sperm must have entered the follicle after it had ruptured. The fertilized ovum then found lodgment in the follicle, around which the corpus luteum developed. As in other cases which have been reported, no decidua was formed showing that the decidua is not of embryonic origin.

102. **Malignant Disease of Retained Testicle.**—The records of fifty-nine cases, one of them his own, were examined by Bulkley. He found that malignant disease of the abdominal testis is relatively rare, but frequently overlooked. In general hospital male admissions it is seen about once in each 60,000 cases. About one in every four cases of malignant abnormally situated testicle is found within the abdomen. About one malignant abdominal testicle occurs to each fifteen malignant scrotal testicles. About one of each seventy-five abdominally retained testes will become malignant. Cases occur mainly during the years of greatest sexual activity, may occur in apparent females, and are slightly more frequent on the right than on the left side. The structure of the tumors differs markedly, but most of them are probably teratomas. Other associated congenital malformations are fairly frequently found. Symptoms do not occur until the size of the tumor or its metastases cause pressure. The prognosis is bad. Of the fifty-nine reported cases, only three are known to be alive and well after two years. Treatment should be excision, preferably before the onset of symptoms and after the age of puberty.

106. **Treatment of Acute Gonorrheal Epididymitis.**—Cunningham believes that epididymotomy offers the best means of ending an acute gonorrheal epididymitis and allaying the symptoms dependent on this pathologic condition.

109. **Treatment of Abdominal Adhesions.**—In the case cited by Reichelderfer before final closure of the wound, the abdomen was filled with salt solution. As soon as the patient reacted from the anesthetic she was placed in a sitting position and kept there. On the third day she was allowed to get out of bed and stand on her feet as much as her strength permitted. Within a few days she was walking around the ward, but still rested and slept in a partially upright position. She left the hospital in four weeks; she suffered no pain and improved rapidly, gaining thirty pounds in the next six months. She resumed her work and has continued well to the present time, a period of nearly four years. From his experience with this case and from reports of many similar cases repeatedly operated on, Reichelderfer thinks we must admit the impossibility of permanently removing these adhesions; but he believes many of these desperate cases can be greatly benefited by this postural treatment after the adesions are broken up at operation.

For this plan to be effective it is necessary, first, that all or nearly all adhesions be broken up, especially on the sensitive parietal peritoneum so that the abdominal contents may adjust themselves at as low a level as possible immediately after the operation; second, that the raw surfaces must be kept apart for twelve or eighteen hours by salt solution, until the patient can be placed in the upright position, which must be done as soon as possible as it is known that raw peritoneal surfaces adhere very quickly.

111. **Modification of Rectus Fascial Flap in Inguinal Hernioplasty.**—The method suggested by Rhodes appears to him to result in a restoration to a condition very closely approximating that obtained by the Bassini operation. He has employed it in only one case, an old, indirect hernia, with very gratifying result. Approach to the operative field is made by a Ferguson incision with the convexity directed toward the midline of the abdomen, to allow easy access to the rectus sheath. The cord, sac and contents are treated as in the Bassini operation. After the sac has been tied off and returned to the abdomen the cord is crowded into the upper angle of the inguinal canal as far as possible, forcing it closely against the fibers of the internal oblique and transversalis at their origin from Poupart's ligament. With the spine of the pubis as a center, a distance is marked off on the rectus sheath equal to the distance from the spine to the cord at its entrance to the abdomen. This gives the level for the transverse section of the rectus sheath.

The entire thickness of the rectus sheath is now converted into a triangular flap by an upper transverse incision across the width of the muscle of the corresponding side, and a longitudinal incision near the midline of the abdomen, meeting the first incision above and prolonged down as far as the symphysis if necessary. The external oblique is now split in the direction of the fibers and the flap is pulled through the slit thus formed. The flap is sutured to the posterior shelving edge of Poupart's ligament, taking the place of the conjoined tendon, and the cord transplanted. Operation concluded as in a typical Bassini operation.

Vermont Medical Monthly, Burlington

December, XIX, No. 12, pp. 287-312

114 Functions of Medical Societies. W. W. Townsend, Rutland.
115 Vermont Pellagra Case. W. L Wasson, Waterbury.

Wisconsin Medical Journal, Milwaukee

December, XII, No 7, pp. 211-246

116 *Some Problems in Bone Surgery. J. M. Hitzrot, New York.
117 Spasmophilic Diathesis. O. W. Rowe, Duluth, Minn.
118 Arthritis Deformans. C. J. Chloupek, Green Bay.
119 Oral Abnormalities and Their Relation to Medicine and Surgery. M. N. Federspiel, Milwaukee.
120 Opportunity. L. E. Axtell, Marinette.

116. Abstracted in The Journal, Nov. 1, p. 1657.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

July, XXXVI, No. 1, pp 1-117

1 *Parasyphilis of Nervous System. J. McIntosh, P. Fildes, H. Head and E. G. Fearnsides.
2 Brain of Macrocephalic Epileptic. J. Wigglesworth and G. A. Watson.
3 Relation of Myopathies. W. G. Spiller, Philadelphia.

1. **Parasyphilis of Nervous System.**—Parasyphilis of the nervous system is looked on by the authors as being a purely clinical conception. It is a diseased state which may affect any part of the brain or spinal cord; the manifestations of tabes dorsalis and dementia paralytica can only be erected into two clinical divisions by an arbitrary selection of signs and symptoms. Some forms of progressive muscular atrophy, lateral and combined sclerosis, primary optic atrophy and periodic epileptiform attacks may be equally definite mani-

festations of parasyphilis. Parasyphilis is slightly, if at all, amenable to antisyphilitic treatment with compounds of arsenic and mercury, probably because these bodies do not enter the essential structures of the central nervous system. Parasyphilitic states are peculiarly liable to arise after mild syphilitic infection.

Sixty per cent. of cases of tabes dorsalis have suffered from at most a primary sore, and in many instances the whole course of the initial infection was run under cover of a gonorrhea. In dementia paralytica and in active, untreated cases of tabes dorsalis and taboparesis, the cerebrospinal fluid yields a positive Wassermann reaction, often of great strength. With acute or chronic syphilis of the nervous system, other than parasyphilis, the behavior of the cerebrospinal fluid depends on the extent to which the spinal cord and its membranes, including those of the brain-stem, are affected. Thus, most cases of meningomyelitis show a strong positive reaction in the cerebrospinal fluid, while cerebral lesions tend to give a weakly positive or even a negative reaction. Antisyphilitic treatment has a profound effect on the positive reaction in syphilitic meningomyelitis, and the cerebrospinal fluid may give a negative reaction after a few months. But in cases of parasyphilis no obvious change occurs in consequence of such treatment, within any comparable period.

The authors believe further that all tertiary and "parasyphilitic" manifestations are expressions of the reaction of hypersensitized tissues ("hyperallergic"). That is to say, during the previous stages of infection the tissues have been so altered that they react more violently to a smaller dose of the spirochetes or its toxins. Gummatosis is the reaction of hypersensitized connective tissues and blood-vessels, while "parasyphilis" is a hyperallergic reaction of the essential nerve-elements and neuroglia. The consequences of this hyperallergic reaction in the tissues of the central nervous system is death of any set of fibers or cells which happens to be attacked, and proliferative reaction on the part of the neuroglia within the same territory. Thus, the clinical manifestations of "parasyphilis" are an expression of the reaction and necrosis of hypersensitized areas of the nervous system, evoked by reappearance of the *Spirochaeta pallida*. This hypersensitive ("hyperallergic") state of the tissues of the central nervous system is produced, in all probability, by the passage of the spirochetes or their toxins up the nerves from the skin and mucous membranes during the secondary period. But it is also conceivable that it may be due to a slight "encephalitis" during this stage of infection.

The headache and lassitude, unaccompanied by any gross nervous lesions, which so frequently occur during the secondary stage, possibly represent clinically the period during which sensitization occurs. Thus, parasyphilis is a clinical conception which comprises the manifestations of a series of diseased states. From the pathologic point of view the term is inadmissible. These states depend on the reaction of hypersensitized tissues to the spirochete or its toxins, and this reaction is as truly syphilitic as the production of gummata. The difference between the consequences of the tertiary and of the "parasyphilitic" process lies in the nature of the tissues participating in the reaction. In the one case the connective tissue is capable of repair and the focus is readily reached by the remedial agents. In the case of "parasyphilis" reaction of the essential nerve-elements leads to their death and antisyphilitic remedies cannot readily reach the spirochetes.

British Journal of Children's Diseases, London

December, X, No. 120, pp. 529-596

4 *Diagnosis of Pulmonary Tuberculosis in Children. D. B. Lees.
5 Meningeal Form of Poliomyelitis. A. Netter.
6 Whooping-Cough in First Days of Life. E. A. Cockayne.
7 Case of Corneal Ulceration Associated with Presence of Spirilla and Fusiform Bacilli. W. G. Goudie and J. R. Sutherland.

4. Diagnosis of Pulmonary Tuberculosis.—Careful and accurate percussion, Lees says, is of primary importance in the diagnosis of early pulmonary tuberculosis, both in the child and in the adult, and that it is capable of detecting the disease at a much earlier period than is possible by any other method of investigation. It is a method which does not require any expensive or complicated apparatus, which is independent of the laboratory and its products and which calls only for care and accuracy on the part of the doctor. When the general practitioner of medicine realizes what is possible for him in diagnosis by careful percussion and auscultation, and determines his treatment in accordance with the knowledge which he may thus easily acquire, the final extinction of the disease known as pulmonary phthisis will have become a possibility.

British Medical Journal, London

December 20, II, No. 2764, pp. 1569-1616

8 *Gunshot Injuries of Arteries. G. H. Makins.
9 *Typhoid-Paratyphoid Vaccination with Mixed Vaccines. A. Castellani.
10 Typhoid Cholecystitis. A. E. Morison.
11 Case of Hysterical Monoplegia following Electric Shock. P. Stewart.
12 Case of Gastric Tetany: Recovery. W. T. Mills.
13 Case of So-Called Rat-Bite Disease. M. I. Dick and W. J. Rutherfurd.

8. See *The Lancet*, abstract 35.

9. Typhoid-Paratyphoid Vaccination with Mixed Vaccines.—The mixed vaccine Castellani uses at the present time contains per cubic centimeter 500 million typhoid, 250 million paratyphoid *B*, and 250 million paratyphoid *A*, and is prepared either from broth cultures or emulsions in physiologic salt solution. A little compound solution of cresol (0.2 per cent.) is added. He gives 0.6 c.c. the first time, and doubles the dose a week later, and, whenever possible, a third dose two weeks from the first. In some cases, however, he gives only ½ c.c. the first time, and 1 c.c. the second. Very thin, delicate individuals and young women receive a little less. Children between 8 and 15 get a quarter to half the adult dose. The inoculation of the mixed vaccine is followed by a local and general reaction which, as a rule, is not distinctly severer than after the inoculation of simple typhoid vaccine. Three or four hours after inoculation the region on the arm where the injection has been made becomes painful and red, and fever may supervene, which does not last longer, as a rule, than twenty-four hours to thirty-six hours, and does not in most cases incapacitate one for work.

As Castellani does not believe that the immunization given by bacterial inoculation lasts in man very long, he generally advises people to be vaccinated once every two years, or even once a year.

Dublin Journal of Medical Science

December, III, No. 504, pp. 393-471

14 Hour-Glass Contraction of Stomach. J. S. McArdle.
15 Pathology of Edema and Dropsy, Chiefly in Relation to Colloids W. G. Smith.
16 Gynecologic Urology. M. J. Gibson.
17 *Petrol (Gasoline) as Therapeutic Agent. G. A. Stephens.

17. Petrol as Therapeutic Agent.—Stephens recommends petrol or gasoline as a scalp cleanser, especially when the dandruff is excessive; in alopecia areata; in cases of pediculi capitis; for wounds of the scalp, enabling the surgeon to remove all surgical "dirt" in an easy and thorough manner, and often times without having to shave the scalp; in pustular eruptions of the beard, especially in cases in which the "rash" can be traced to such a cause as discharge from the external meatus. Applied early in cases of barber's rash or in scabies, in cases of cracked nipples, for soft corns, burns of all kinds, and especially those produced by the spluttering of hot metal at steel, copper or spelter works, are greatly benefited by the early application of petrol.

The value of petrol in burns is, in Stephens' opinion, due to the fact that it destroys all germs that have been conveyed from the filthy clothes on to the wound, and at the same time interferes with the broken-down, half-burnt skin-cells, from which enzymes have been set free. In operations he has found petrol extremely useful and effective, and possessing none of the irritating and disappointing qualities of tincture of iodin. Before the incision the part should be well scrubbed with cotton wool soaked in petrol, and the instruments, if they be suspected, can be thoroughly disinfected by putting them in petrol for a few minutes: after the stitches are inserted all that remains to be done is to swab with petrol and dress with an orthodox dry dressing. One word of warning is sounded as regards the use of petrol, and that is that it should never be handled near a fire or a naked light, such as gas, or a candle, or an oil lamp, for on account of its great volatility it readily gets ignited, and with disastrous consequences.

Glasgow Medical Journal

December, LXXX, No. 6, pp. 401-475

18 Medical Life and Work. T. K. Monro.
19 Case of Carcinoma of Vermiform Appendix in Girl, Aged 20 Years. G. T. Beatson.
20 Byzantine Medicine: Finlayson Memorial Lecture. T. C. Allbutt.

Journal of Laryngology, Rhinology and Otology, London

December, XXVIII, No. 12, pp. 621-696

21 Cerebrospinal Rhinorrhea with Subsequent Ethmoiditis and Frontal Sinus Suppuration. P. Watson-Williams.
22 Toxic Exhaustive Insanity Associated with Chronic Suppurative Otitis Media, Labyrinthitis and Extradural Abscess. D. K. Henderson, W. Muirhead and J. S. Fraser.
23 Treatment of Nasal Accessory Sinus Suppuration by Ionization. J. C. G. MacNab.

Journal of State Medicine, London

December, XXI, No. 12, pp. 705-768

24 *Inheritance of Mental Characters. T. B. Hyslop.
25 *Sporotrichosis. Gougerot.
26 Purity of Water-Supplies. J. Parry.
27 Bacillus Carriers. G. Miron.
28 Nature of Wassermann Reaction. G. Dreyer and E. W. A. Walker.
29 Town Dust and Disease. S. B. Walsh.
30 Necessity for Medical Examination of All Workers. J. C. McWalter.
31 Medical Inspection of Schoolchildren and Medical Education. J. R. R. Trist.

24. **Inheritance of Mental Characters.**—From our knowledge and experience Hyslop believes it to be warrantable to make the following assumptions: There are certain fundamental capacities of mind which cannot be demonstrated as being the result of ancestral experience, nor do they necessarily represent acquisitions made in the life history of the race. These capabilities need not necessarily manifest themselves at the early periods of life, nor are they entirely dependent on the environment, which acts on the mind through the nerve structures. The conditionings of such mental developments do not invariably follow what we imagine to be the proper laws of organic and nervous development. Genius, although invariably associated with, or symptomatic of, a neuropathic process, is, nevertheless, often closely allied to the neuropathic diathesis, as evidenced in the histories of past and present geniuses. So far from being the result of progressive achievements of the intellect are some forms of genius that they may more truly be classed with the degenerate than with the healthy.

Journal of Tropical Medicine and Hygiene, London

December 1, XVI, No. 23, pp. 361-376

32 Meteorology of Malaria. M. D. O'Connell.
33 Epidemiologic Survey and Investigation into Probable Causes of Sickness among Mules on Plantations Bath, Blairmont, Providence and Springlands, British Guiana. E. P. Minett.
34 Salvarsan in Filariasis. E. R. Branch.

Lancet, London

December 20, II, No. 4712, pp. 1743-1812

35 *Gunshot Injuries of Arteries. G. H. Makins.
36 *Diagnosis, Prognosis and Treatment of Sydenham's Chorea. F. Langmead.
37 Oil-Ether Anesthesia. J. T. Gwathmey.
38 Development of Pharynx by Muscular Exercises after Operation for Adenoids. F. Warner.
39 Fatal Case of Pellagra in Insane Patient. F. E. Rainsford.
40 *Use of Vaccines Graduated by Their Opacity. L. C. Bruce.
41 Cancer of Tongue and Larynx Removed by Operation. W. S. Kerr.
42 Repair of Flexor Tendons of Hand: Revised Technic. C. M. Page.
43 Case of Rat-Bite Fever Treated by Neosalvarsan. N. F. Surveyor.

35. **Gunshot Injuries of Arteries.**—Makins discusses this subject from the viewpoint of the military surgeon. He takes up, in order, the changes in the form of the bullet; injuries to blood-vessels by modern and older bullets; contusion of the vessel wall; comparative frequency and results of various forms of wounds; anatomic characters of the wounds; primary hemorrhage; spontaneous cure as an immediate process; remote process of healing; aneurysmal varix; secondary hemorrhage; the development of aneurysms; the treatment of wounded arteries; treatment of arterial hematomas and aneurysms; direct and proximal ligature; modified operation of Antyllus—extirpation; the method of suture; the immediate vitality of the limb; the later nutrition of the limb; thrombosis; other accidents.

Under this head he refers to the comparative results obtained in 41 cases of ligature and 24 cases of suture in the Belgrade State Hospital, as follows: ligature, 41 cases; gangrene, 6 cases (14.6 per cent.), and deaths, 4 cases (9.75 per cent.). One death due to softening of the brain and pneumonia after ligature of the carotid, 1 from secondary hemorrhage, 1 from sepsis and 1 from anemia and exhaustion. Suture, 24 cases; gangrene, 3 cases (12.5 per cent.), and deaths, 2 cases (8.3 per cent.).

The operation of choice for primary hemorrhage from a gunshot wound in the field is direct ligature. Primary ligature should be confined to cases in which hemorrhage is obviously endangering life. As to intermediate operations the wounds are ill-suited to any form of treatment except the simplest. Secondary operations may be undertaken at an average period of about four weeks and practically resolve themselves into operations for aneurysms of three varieties.

A consideration of the wounds of arteries by bullets of small caliber and their treatment, Makins states, shows that progress in this branch of military surgery has taken the direction of increased conservatism and expectancy. In this it is no exception to that observed in every other chapter of the subject. Non-interference in fractures has become almost a general rule, operations on joints have decreased in number almost to a vanishing point, injuries to the nerves are seldom the subjects of primary operative treatment, and we have seen that those of the vessels come into the same category. Still more striking is the expectant attitude maintained by the surgeon in the case of wounds traversing the great body cavities, in all of which primary operations have become progressively fewer.

36. **Sydenham's Chorea.**—Langmead does not recognize a specific remedy in the treatment of chorea. In some cases after a short rest in bed the symptoms rapidly and unexpectedly subside; in others, apparently similar, the chorea persists in spite of the use of several therapeutic agents. There is a logical basis for the administration of sodium salicylate or acetosalicylic acid because of their effect on rheumatism—and Langmead says, most of us regard chorea as a rheumatic manifestation; but, again in following a long series of patients treated in this way it is difficult to be sure that these drugs are capable either of diminishing the severity of an attack or of shortening its duration. Langmead usually prescribes one of these drugs. They are especially indicated if the temperature is raised, and should be pushed in sufficient doses to bring it down to normal. He has not found that these large doses have a better effect than others of more moderate size. If salicylates are used, whether in large or small doses, certain precautions should be taken to avoid poisoning symptoms. Those which are most to be feared are due to acid-intoxication, and resemble somewhat diabetic coma. The child becomes drowsy, her respirations deep and noisy (air hunger), vomiting occurs, the breath is sweet from the presence of acetone, and acetone and diacetic acid are found in the urine. If the salicylate is not discontinued the child may sink into coma and die, though this is a very rare occurrence.

These symptoms may be avoided if two precautions are exercised—first, the bowels should always be kept well open; and, second, twice as much sodium bicarbonate should be given as sodium salicylate. Before beginning salicylate treatment it is well to administer a purgative, and the bowels should have been opened within the twelve hours preceding any increase in the dose. By attention to these details all anxiety concerning acid-intoxication disappears. Langmead has not been impressed by the value of arsenic, while it has been his experience to encounter more than one case in which arsenical neuritis was produced—a condition which takes far longer to get well than that for which the drug was given.

festations of parasyphilis. Parasyphilis is slightly, if at all, amenable to antisyphilitic treatment with compounds of arsenic and mercury, probably because these bodies do not enter the essential structures of the central nervous system. Parasyphilitic states are peculiarly liable to arise after mild syphilitic infection.

Sixty per cent. of cases of tabes dorsalis have suffered from at most a primary sore, and in many instances the whole course of the initial infection was run under cover of a gonorrhea. In dementia paralytica and in active, untreated cases of tabes dorsalis and taboparesis, the cerebrospinal fluid yields a positive Wassermann reaction, often of great strength. With acute or chronic syphilis of the nervous system, other than parasyphilis, the behavior of the cerebrospinal fluid depends on the extent to which the spinal cord and its membranes, including those of the brain-stem, are affected. Thus, most cases of meningomyelitis show a strong positive reaction in the cerebrospinal fluid, while cerebral lesions tend to give a weakly positive or even a negative reaction. Antisyphilitic treatment has a profound effect on the positive reaction in syphilitic meningomyelitis, and the cerebrospinal fluid may give a negative reaction after a few months. But in cases of parasyphilis no obvious change occurs in consequence of such treatment, within any comparable period.

The authors believe further that all tertiary and "parasyphilitic" manifestations are expressions of the reaction of hypersensitized tissues ("hyperallergic"). That is to say, during the previous stages of infection the tissues have been so altered that they react more violently to a smaller dose of the spirochetes or its toxins. Gummatosis is the reaction of hypersensitized connective tissues and blood-vessels, while "parasyphilis" is a hyperallergic reaction of the essential nerve-elements and neuroglia. The consequences of this hyperallergic reaction in the tissues of the central nervous system is death of any set of fibers or cells which happens to be attacked, and proliferative reaction on the part of the neuroglia within the same territory. Thus, the clinical manifestations of "parasyphilis" are an expression of the reaction and necrosis of hypersensitized areas of the nervous system, evoked by reappearance of the *Spirochaeta pallida*. This hypersensitive ("hyperallergic") state of the tissues of the central nervous system is produced, in all probability, by the passage of the spirochetes or their toxins up the nerves from the skin and mucous membranes during the secondary period. But it is also conceivable that it may be due to a slight "encephalitis" during this stage of infection.

The headache and lassitude, unaccompanied by any gross nervous lesions, which so frequently occur during the secondary stage, possibly represent clinically the period during which sensitization occurs. Thus, parasyphilis is a clinical conception which comprises the manifestations of a series of diseased states. From the pathologic point of view the term is inadmissible. These states depend on the reaction of hypersensitized tissues to the spirochete or its toxins, and this reaction is as truly syphilitic as the production of gummata. The difference between the consequences of the tertiary and of the "parasyphilitic" process lies in the nature of the tissues participating in the reaction. In the one case the connective tissue is capable of repair and the focus is readily reached by the remedial agents. In the case of "parasyphilis" reaction of the essential nerve-elements leads to their death and antisyphilitic remedies cannot readily reach the spirochetes.

British Journal of Children's Diseases, London

December, X, No. 120, pp. 529-596

4 *Diagnosis of Pulmonary Tuberculosis in Children. D. B. Lees.
5 Meningeal Form of Poliomyelitis. A. Netter.
6 Whooping-Cough in First Days of Life. E. A. Cockayne.
7 Case of Corneal Ulceration Associated with Presence of Spirilla and Fusiform Bacilli. W. G. Goudie and J. R. Sutherland.

4. **Diagnosis of Pulmonary Tuberculosis.**—Careful and accurate percussion, Lees says, is of primary importance in the diagnosis of early pulmonary tuberculosis, both in the child and in the adult, and that it is capable of detecting the disease at a much earlier period than is possible by any other method of investigation. It is a method which does not require any expensive or complicated apparatus, which is independent of the laboratory and its products and which calls only for care and accuracy on the part of the doctor. When the general practitioner of medicine realizes what is possible for him in diagnosis by careful percussion and auscultation, and determines his treatment in accordance with the knowledge which he may thus easily acquire, the final extinction of the disease known as pulmonary phthisis will have become a possibility.

British Medical Journal, London

December 20, II, No. 2764, pp. 1569-1616

8 *Gunshot Injuries of Arteries. G. H. Makins.
9 *Typhoid-Paratyphoid Vaccination with Mixed Vaccines. A. Castellani.
10 Typhoid Cholecystitis. A. E. Morison.
11 Case of Hysterical Monoplegia following Electric Shock. P. Stewart.
12 Case of Gastric Tetany: Recovery. W. T. Mills.
13 Case of So-Called Rat-Bite Disease. M. I. Dick and W. J. Rutherfurd.

8. See *The Lancet*, abstract 35.

9. **Typhoid-Paratyphoid Vaccination with Mixed Vaccines.**—The mixed vaccine Castellani uses at the present time contains per cubic centimeter 500 million typhoid, 250 million paratyphoid B, and 250 million paratyphoid A, and is prepared either from broth cultures or emulsions in physiologic salt solution. A little compound solution of cresol (0.2 per cent.) is added. He gives 0.6 c.c. the first time, and doubles the dose a week later, and, whenever possible, a third dose two weeks from the first. In some cases, however, he gives only ½ c.c. the first time, and 1 c.c. the second. Very thin, delicate individuals and young women receive a little less. Children between 8 and 15 get a quarter to half the adult dose. The inoculation of the mixed vaccine is followed by a local and general reaction which, as a rule, is not distinctly severer than after the inoculation of simple typhoid vaccine. Three or four hours after inoculation the region on the arm where the injection has been made becomes painful and red, and fever may supervene, which does not last longer, as a rule, than twenty-four hours to thirty-six hours, and does not in most cases incapacitate one for work.

As Castellani does not believe that the immunization given by bacterial inoculation lasts in man very long, he generally advises people to be vaccinated once every two years, or even once a year.

Dublin Journal of Medical Science

December, III, No. 504, pp. 393-471

14 Hour-Glass Contraction of Stomach. J. S. McArdle.
15 Pathology of Edema and Dropsy, Chiefly in Relation to Colloids. W. G. Smith.
16 Gynecologic Urology. M. J. Gibson.
17 *Petrol (Gasoline) as Therapeutic Agent. G. A. Stephens.

17. **Petrol as Therapeutic Agent.**—Stephens recommends petrol or gasoline as a scalp cleanser, especially when the dandruff is excessive; in alopecia areata; in cases of pediculi capitis; for wounds of the scalp, enabling the surgeon to remove all surgical "dirt" in an easy and thorough manner, and often times without having to shave the scalp; in pustular eruptions of the beard, especially in cases in which the "rash" can be traced to such a cause as discharge from the external meatus. Applied early in cases of barber's rash or in scabies, in cases of cracked nipples, for soft corns, burns of all kinds, and especially those produced by the spluttering of hot metal at steel, copper or spelter works, are greatly benefited by the early application of petrol.

The value of petrol in burns is, in Stephens' opinion, due to the fact that it destroys all germs that have been conveyed from the filthy clothes on to the wound, and at the same time interferes with the broken-down, half-burnt skin-cells, from which enzymes have been set free. In operations he has found petrol extremely useful and effective, and possessing none of the irritating and disappointing qualities of tincture of iodin. Before the incision the part should be well scrubbed with cotton wool soaked in petrol, and the instruments, if they be suspected, can be thoroughly disinfected by putting them in petrol for a few minutes: after the stitches are inserted all that remains to be done is to swab with petrol and dress with an orthodox dry dressing. One word of warning is sounded as regards the use of petrol, and that is that it should never be handled near a fire or a naked light, such as gas, or a candle, or an oil lamp, for on account of its great volatility it readily gets ignited, and with disastrous consequences.

Glasgow Medical Journal

December, LXXX, No. 6, pp. 401-475

18 Medical Life and Work T K Monro
19 Case of Carcinoma of Vermiform Appendix in Girl, Aged 20 Years G T Beatson
20 Byzantine Medicine: Finlayson Memorial Lecture T C Allbutt

Journal of Laryngology, Rhinology and Otology, London

December, XXVIII, No. 12, pp. 621-696

21 Cerebrospinal Rhinorrhea with Subsequent Ethmoiditis and Frontal Sinus Suppuration P Watson Williams
22 Toxic Exhaustive Insanity Associated with Chronic Suppurative Otitis Media, Labyrinthitis and Extradural Abscess D K Henderson W Muirhead and J S Fraser
23 Treatment of Nasal Accessory Sinus Suppuration by Ionization J C G MacNab

Journal of State Medicine, London

December, XXI, No. 12, pp. 705-768

24 *Inheritance of Mental Characters T B Hyslop
25 *Sporotrichosis Gougerot
26 Purity of Water Supplies J Parry
27 Bacillus Carriers G Miron
28 Nature of Wassermann Reaction G Dreyer and E W A Walker
29 Town Dust and Disease S B Walsh
30 Necessity for Medical Examination of All Workers J C McWalter
31 Medical Inspection of Schoolchildren and Medical Education J R R Trist

24 **Inheritance of Mental Characters.**—From our knowledge and experience Hyslop believes it to be warrantable to make the following assumptions. There are certain fundamental capacities of mind which cannot be demonstrated as being the result of ancestral experience, nor do they necessarily represent acquisitions made in the life history of the race. These capabilities need not necessarily manifest themselves at the early periods of life, nor are they entirely dependent on the environment, which acts on the mind through the nerve structures. The conditionings of such mental developments do not invariably follow what we imagine to be the proper laws of organic and nervous development. Genius, although invariably associated with, or symptomatic of, a neuropathic process, is, nevertheless, often closely allied to the neuropathic diathesis, as evidenced in the histories of past and present geniuses. So far from being the result of progressive achievements of the intellect are some forms of genius that they may more truly be classed with the degenerate than with the healthy.

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40. Vaccines Graduated by Their Opacity.—Bruce's method is to grow the cultures on agar, blood agar, etc., and to make an emulsion of the growth with normal saline. The emulsion is then placed in a ⅝ inch test-tube and diluted with normal saline until it is possible to read clearly certain type through the medium of the tube containing the emulsion. The vaccine is then sterilized by heat or it is sterilized by chloroform or by ether. Satisfactory results were obtained by all three methods of sterilization. If the vaccine is to be used by himself, Bruce uses it in the above density, making the initial dose in every case 0.1 c.c. If the vaccine is to be used by a general practitioner, Bruce dilutes the original emulsion to 2½ or 5 volumes, and the dose will then be either 0.25 or 0.5 c.c. Subsequent doses can be increased or diminished according to the reaction obtained from the first injection.

Bruce appends a list of the results in eighty-eight patients treated by vaccine graduated in the manner described.

Archives des Maladies de l'App. Digestif, Paris

November, VII, No. 2, pp. 601-660

44 *Gastric Crises of Tabes and Their Operative Treatment. J. Tinel.
45 Dilatation of the Pylorus from the Mouth. M. Einhorn (New York).
46 Surgery of Pelvic Colon. M. Patel.

44. Gastric Crises of Tabes and Their Operative Treatment.—Tinel discusses the anatomic bases for gastric crises and explains why those for which the splanchnic nerves are responsible are the only ones amenable to the operative measures proposed to date. His illustrations showing the inflammatory processes in the dorsal roots confirm this, as also the existence of foci of meningeal irritation along the course of the origin of the splanchnic nerves. The pneumogastric crises differ from the splanchnic. The vomiting factor in the crisis may be of pneumogastric origin, but this is only a minor element in the gastric crisis of pain. Both pneumogastric and splanchnic nerves may be involved, but if the splanchnic pains can be abolished the other elements in the attack are comparatively negligible. He discusses the various operative measures in vogue, stating that Foerster's operation has a record of 31 per cent. mortality in the sixty cases in which it has been done; twenty-seven of the patients were cured partially or completely and six much improved. The failures in eight cases were probably due to the fact that not enough roots were severed.

Tinel regards this operation as logical and effectual, but too serious for any but desperate cases. He says of Franke's method of tearing out the intercostal nerves, hoping thus to tear away with them the rami communicantes, the origin of the splanchnic nerves, that its chief danger lies in tearing the meningeal sheath too, while if it does not pull out the ganglion with the nerve root it fails of its purpose. The record to date, he says, is eight cures, nine recurrences, one improvement and two deaths. At the same time, he says, at present it is the easiest and simplest operation. Ligating the dorsal spinal roots between the ganglion and the dural sac must effectually block the reflex arc and eventually entail complete degeneration of the sensory dorsal fibers. This simple and rapid operation thus amounts virtually to a laminectomy. The only drawback is that the anterior motor root must be included in the ligature. Franke's operation, however, has demonstrated that this can be done with impunity. Slight paresis of the epigastric musculature may result, as Leriche and Cotte have already observed, but this is easily counteracted by wearing a belt.

Archives de Médecine des Enfants, Paris

December, XVI, No. 12, pp. 881-984

47 *Choreiform Manifestations in Epidemic Poliomyelitis. (Paralysie infantile choréique.) A. Netter and L. Ribadeau-Dumas.
48 *Salvarsan in Treatment of Syphilis in Children. A. Galliot.
49 Mode of Infection with Tuberculosis in Young Children. (Voies d'accès de la tuberculose chez les enfants.) O. Medin.
50 Hypophysis Tumor Syndrome in Young Man. (Diabète insipide, dystrophies générales avec prédominance aux organes génitaux; ensemble symptomatique lié à une insuffisance hypophysaire.) A. Mamrot.

47. Choreic Poliomyelitis.—The two typical cases reported show that epidemic poliomyelitis may occasion choreiform movements, this jerking keeping up for days or weeks. It generally precedes by a few hours the development of the paralysis, and is generally transient. This choreic type is more common in monkeys inoculated with the virus than in man. The choreiform phenomena may exist alone, and the cases that have been published of alleged "paralytic chorea" were probably instances of this.

48. Syphilis in Children.—Galliot cites statistics which show that 82.9 per cent. of the children died before or soon after birth when the mothers—217 in all—had florid syphilis and were given energetic mercurial treatment. In 291 other pregnant women whose syphilis was in a latent stage during the pregnancy and who took systematic mercurial treatment, 75.9 per cent. of the children were viable at birth; 91.72 per cent. were viable of the children of 145 women given salvarsan during pregnancy. Galliot ranks salvarsan above all other measures in treatment of syphilis in pregnant women. Given systematically, he says, it permits the hope of healthy offspring free from inherited taint, while its use seems free from danger for mother and child. But after the child is born, he continues, salvarsan gives slight if any benefit, while it is liable to prove directly harmful for the infant. Mercury is far superior to salvarsan in treatment of infants. Salvarsan comes into its own again, however, for older children. It seems to act rapidly and unfailingly on already developing lesions. It also seems to act effectually on syphilitic dystrophies, especially when combined with mercury.

The Wassermann test is not of much use in diagnosis of syphilis in children. The courses of treatment for children should be as long as for adults. He cites a number of authors who have reported excellent results from salvarsan in treatment of children with inherited syphilis, and adds five cases from his own experience. One of his patients was a girl of 10 with inherited taint manifested in a process in the right knee with ankylosis, slight albuminuria and keratitis with no apparent benefit from twenty-five injections of mercury. She was then given in the course of about two years 0.75 gm. of salvarsan by intravenous injection, 1 gm. intramuscular and 1.4 gm. of neosalvarsan intramuscular. By the fourth injection the knee trouble began to improve, and finally the ankylosis retrogressed and the knee is now used normally; the eyes have been in good condition for over six months. In the second case the boy of 10 took a course of neosalvarsan to a total of 1.1 gm. When 0.6 gm. had been reached the ankylosis had entirely subsided but the Wassermann was still positive. By the end of the course all signs and symptoms had subsided.

Bulletins de la Société de Pédiatrie, Paris

October, XV, No. 8, pp. 413-459

51 Recovery of Vision after Decompressive Craniectomy. (A propos des tumeurs cérébrales.) Guinon, de Martel and Ripart.
52 Retention of Urine and Other Symptoms of Acute Stage of Epidemic Poliomyelitis. (Stade aigu de la paralysie infantile.) G. Schreiber and d'Allaines.
53 Roentgen Therapy of Diseased Mediastinal Lymph-Nodes. (Radiothérapie de l'adénopathie médiastine.) L. Ribadeau-Dumas, A. Weil and Samet.
54 *Serotherapy by Proctoclysis. (Le "sérum continu intrarectal" en médecine infantile.) E. Lesné.

54. Saline Infusion by Proctoclysis for Children.—Lesné has applied to infants what he calls *la méthode de Murphy* in the place of subcutaneous injection of artificial serum. The tolerance was perfect even in the youngest and there is no contraindication to the method, for not even diarrhea is influenced by this drop method. He administered thus 50 or 100 c.c. of isotonic serum or 4 per cent. solution of sugar and found that it was absorbed as rapidly as by subcutaneous injection. He reports excellent results from it in children of all ages with gastro-enteritis, cyclic vomiting, acute alimentary anaphylaxis and typhoid fever. In some cases he added a little hexamethylenamin or epinephrin and states that the action of the latter was more effectual by the rectum than by the mouth.

Lyon Médical, Lyons

November 30, XLV, No 48, pp 885 940

55 Respiratory Paralysis L Bériel and P Durand Commenced in No 46

December 7, No 49, pp 941 996

56 *Turpentine Injections in Children Péhu and Pillon
57 *Obesity in Children Showing the Characteristics of Genital Adiposity G Mouriquand Commenced in No 48

56 **The Turpentine Fixation Abscess in Children**—After reviewing the meager literature on the subject of the application to children of Fochier's method of therapeutic aseptic fixation abscess, Péhu and Pillon give their results in seventy eight cases, including the so called primary bronchopneumonia following various infections, such as whooping cough, diphtheria, scarlet fever and measles, and in tuberculosis They gave an injection of pure turpentine (0 5 c c) in children under two years of age and 1 c c in children above that age The age of the patients varied from a few months to 12 years No harmful effects were observed in even the youngest children The injections were made deep into the cellular tissue of the abdominal wall There was always a local reaction in the form of an abscess The results in the tuberculous cases, which were very far advanced, were not particularly satisfactory, and hardly more so in the secondary bronchopneumonia, but in eighteen cases the fixation abscess was followed by rapid improvement and recovery Thirteen times the injections were without effect and the patients died In three cases the recovery was probably not due to the turpentine, as it did not take place till long after the formation and opening of the abscess

57 **Obesity in Children.**—Mouriquand discusses the pathology, symptomatology and treatment of pathologic obesity in children Associated with the excessive development of fat there is atrophy of the reproductive glands A point of interest is the extreme degree of tolerance for carbohydrates, and the fact that these patients are frequently the children of diabetics They are liable to become diabetic themselves later in life, and the carbohydrate tolerance should be carefully watched The condition is generally agreed to be due primarily to decreased function of the posterior lobe of the hypophysis but other glands are doubtless involved in its causation The condition is amenable to surgical treatment if the affection of the hypophysis is due to tumors or cysts Theoretically it should be cured by extract of hypophysis but in practice the results of this treatment are variable, being best when the fresh extract of the gland is given. Two boys were treated by Weill by compressing the veins of the spermatic cord with a truss pad on each side This auto organotherapy caused a congestive increase in the size of the testicles and this was followed by a decided improvement in the obesity (See Paris Letter in The Journal, Nov 8, 1913, p 1730)

Presse Médicale, Paris

December 6, XXI, No 99, pp 989 1004

58 From the Balkan War (Effets généraux des projectiles) O Laurent
59 Microscopic Lesions in the Gall Bladder with Gall Stones P Lecène
60 Technic for Prostatectomy for Hypertrophy of the Prostate M Chevassu
61 Multiple Valvular Disease (Cardiopathies valvulaires combinées Six lésions des orifices d un cœur) M Letulle

Revue Mens de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

November, VIII, No 11, pp 641 728

62 *Dysmenorrhea and Thyroid or Ovarian Treatment P Dalché
63 Cystoscopy in Case of Inflammation around the Bladder (La cystoscopie dans les péricystites d origine annexielle ou appendiculaire) O Pasteau
64 Turpentine Tampon in Puerperal Endometritis P Delmas
65 Uncontrollable Vomiting of Pregnancy (Deux cas de vomissements incoercibles traités par l avortement provoqué) L Dubrisay

62 **Dysmenorrhea and Organotherapy.**—Dalché reviews the various causes which may be responsible for painful menstruation, such as defective development of the genital organs, the ovaries in particular, abnormal ovulation, disease or other causes for the pain in the ovaries, in some cases the cause for the pains must be sought in the glands with an internal secretion, especially the thyroid, and local or radiating neuralgias may be the cause for the dysmenorrhea in others There is still another class of cases in which spasmodic contraction is the source of the pains, defective development of the uterus may be responsible for this or it may be started, maintained or aggravated by pain in the ovaries The spasm may be more painful when there is any mechanical hindrance to the distention of the ovaries and uterus during the menstrual congestion Treatment therefore must vary according to the indications in each individual case Stenosis or atrophy of the cervix should be mechanically combated by dilatation or possibly Pozzi's logical operation for the purpose But the pains may persist even after the outlet has been rendered readily permeable In this case and when the organs seem to be sound, a course of thyroid treatment may restore the balance between the internal secretions He has frequently found it effectual in regulating menstruation, increasing the menses to normal proportions and without abnormal pain He gives small doses of pulverized thyroid, 0 025 to 0 05 or even 0 1 gm a day, keeping this up for a month or more to get the full benefit of its stimulating and regulating action on the functioning of the ovaries The patient must be kept under close supervision during the course, suspending the organotherapy if the pulse goes over 100 or at least materially reducing the dosage After the first month he has the thyroid treatment continued only during the ten days preceding the date of menstruation Sometimes he has found it better to alternate ovarian and thyroid treatment, thyroid in the morning and ovarian tissue at evening, or giving the ovarian treatment continuously for three days and then the thyroid continuously for the same length of time and then resuming the ovarian treatment

He has never had any mishaps with this treatment and has been more successful with it than ever before in the management of dysmenorrhea The only disadvantage is that it generally has to be kept up for months or resumed occasionally to obtain durable improvement or a complete cure To relieve the pain during an attack he gives laudanum and antipyrin, 10 to 1, in a rectal enema or with sodium bromid in place of the antipyrin Relief may be obtained from hot douches on the feet front of the legs and inner side of the thighs, with moist heat to the abdomen Sedative liniments and pomades may also prove useful, or even a blister The patients should guard against constipation, lead a quiet life and keep in bed during the menstrual period It is a frequent experience that if by vigorous means it is possible to ward off the pain with menstruation once, twice or three times in succession, the tendency to dysmenorrhea seems to be broken up and menstruation proceeds normally thereafter

Archiv fur Gynakologie, Berlin

CI, No 1, pp 1 272 Last indexed Nov 22, 1913, p 1938

66 Time Relations between Ovulation and Menstruation R Schroder
67 *Inhibiting Influence on the Genital Sphere of Loss of the Adrenals (Einfluss der Nebennierenausschaltung auf das Genitale) J Novak
68 Connection between Etiology and Histology of Salpingitis E Weishaupt
69 *Influence of Pregnancy and the Puerperium on the Mortality from Tuberculosis C Van Tussenbroek
70 Anatomic Changes in the Organs in Abdomen and Thorax after Intraperitoneal Injection of Camphorated Oil Kawasoye
71 Case of Myxosarcoma of the Uterus W Kolde
72 Bilateral Sarcoma in the Genital Glands of a Pseudohermaphrodite R Keller
73 *Habitual Abortion in Connection with the Internal Secretions F Lehmann
74 Radical Operation for Prolapse of Genital Organs H Cramer

67 **Influence on Genital Sphere of Loss of Adrenals**—Novak studied this question on 166 rats, finding that the genital organs in young rats showed extreme changes after the adrenals on both sides had been removed, and the sexual functioning was correspondingly much reduced The atrophy and hypoplasia of the genital organs were more pronounced the younger the rat at the time the adrenals were removed

69 **Influence of a Pregnancy on Mortality from Tuberculosis**—Tussenbroek compares tabulated statistics fr Amsterdam and Rotterdam for various recent decades

showing, she says, that the mortality from tuberculosis among women is not increased by child-bearing. The fact that the woman is tuberculous is no reason for interrupting the pregnancy, according to the data here presented.

73. **Habitual Abortion and the Internal Secretions.**—Lehmann's extensive clinical and experimental research failed to establish any regular connection between habitual abortion and the internal secretions. Such was suggested, however, by the success of a course of treatment with potassium iodid and iron. It failed *only in one of the thirteen cases reported of* essential habitual premature delivery or miscarriage; that is, in women free from organic disease. The medication must be kept up systematically throughout the pregnancy, possibly varying the preparations and suspending all at intervals.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XIX, No. 1, pp. 1-166. Last indexed Nov. 8, p. 1754

75 The General Mechanical Pressure in Natural Childbirth Contrasted with the Isolated Traction of Artificial Delivery. (Ueber einen wesentlichen Unterschied zwischen nat. Geburt und künst. Entbindung.) H. Sellheim.
76 Changes in the Follicular Apparatus of the Ovary during Pregnancy. R. Keller.
77 *Heart Disease and Pregnancy. (Herzerkrankung und Schwangerschaft.) M. Eisenbach.
78 *Bacteriologic Findings in Vaginal Secretion and Blood in Diagnosis and Prognosis of Puerperal Infection. H. v. Hecker.
77 Adenomyomatous Tumors in Female Internal Genital Organs F. Jacobs.

77. **Heart Disease and Pregnancy.**—Eisenbach states that some cardiac defect was noted in forty-five of the 3,037 obstetric cases at the Tübingen maternity in the last five years. The trouble was a valvular defect in thirty, and in the myocardium in thirteen, a total of 1.4 per cent. of all the deliveries. Twelve pages are devoted to categorical classification of the cases. As long as compensation was maintained the heart affection did not represent a serious danger. *Only when the valvular defect or myocardium injury was* especially severe were serious disturbances liable, also in all cases in which the heart disease was complicated with nephritis or chronic lung disease. The special type of valvular disease did not seem to affect the outcome, but if compensation becomes upset and internal measures fail to restore the balance, labor must be induced without delay. In the second half of pregnancy a vaginal incision in the uterus will enable it to be evacuated with the least strain on the patient. No special tendency to abortion was noticed and no special danger for the birth itself in a case of uncomplicated valvular defect. On the other hand, a damaged myocardium is liable to become totally incompetent even during the first stage of labor, when the labor contractions bring such sudden sharp changes in the circulation. This may occur when up to this point compensation had been maintained unimpaired. Operative delivery is thus indicated, as a rule, only when the myocardium is seriously impaired, and with danger of this kind, it is wiser to do some operation to protect the woman against future pregnancies.

General anesthesia is absolutely contra-indicated with severe weakness of the heart but it can be applied with compensated valvular defects and slight cardiac insufficiency. The mortality was 0.42 per cent. in 235 cases of delivery with heart disease, excluding those in which the fatality was due to other causes. The puerperium is not affected by the heart disease in any special way, but puerperal infection runs a peculiarly menacing course and is exceptionally dangerous on account of the tendency for endocarditis to recur at the time. The disturbances from heart disease on the whole are more serious and menacing the older the woman; in his cases there was no mortality under 25; 4 per cent. mortality between this and 35, and 26 per cent. over this.

78. **Bacteriology of Puerperal Infection.**—Von Hecker states that the blood was found sterile in 67 per cent. of 100 cases of puerperal fever and only 8.8 per cent. of these patients died, while 50 per cent. died of those with positive bacteriologic findings in the blood. Streptococci were found in 81.8 per cent. of the positive cases.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXIX, No. 1, pp. 1-111. Last indexed Dec. 20, 1913, p. 2276

80 Spontaneous Tuberculosis in Guinea-Pigs. (Spontane Meerschweinchen-Tuberkulose.) O. Feyerabend.
81 "Iron Tuberculin." (Weitere Mitteilung über Eisentuberkulin.) W. Schultz.
82 *Therapeutic Pneumothorax. (Zur Frage des künstlichen Pneumothorax.) G. Breccia.
83 *Pleural Effusion after Therapeutic Pneumothorax. (Experimentelle und klinische Mitteilungen über die nach Pneumothoraxoperationen auftretenden Pleuraergüsse.) A. Meyer.
84 Tuberculosis is a Child's Disease. (Die Tuberkulose—eine Kinderkrankheit.) K. F. Andvord.
85 Eosinophil Cells in Sputum. (Zur Frage der lokalen Eosinophilie.) F. Wendenburg.

82-83. **Therapeutic Pneumothorax.**—Breccia writes from the medical clinic at Genoa in charge of Maragliano to discuss the history, nature and results of this method of compressing the tuberculous lung. He says that roentgenoscopy confirms the thorough obliteration of the cavity. He also discusses what *happens in the other lung at the same time, sound or* diseased. When the lung has been compressed in this way, the measure must be kept up until a clinical cure has been realized. The length of the period required for this varies with the extent and severity of the process, the condition of the pleura and the general health. The compression of the lung must be kept constant and regular, avoiding danger of overpressure and rapid expansion. About 100 c.c. of the gas is absorbed on an average in twenty-four hours; the quantity of the gas and pressure are less instructive than the space taken by the pneumothorax; this can be determined by the way in which the walls yield to pressure and by the retraction of the lung. The absorption of the gas proceeds most *rapidly the healthier the pleura, the more movable the lung* and the greater the muscular development. Mayer reviews what has been accomplished in this line by others and reports the details of eighteen cases of pleural effusion consecutive to artificial pneumothorax out of a total of forty-six cases in which he had applied the measure. The pleural effusion in different cases varies in the mechanism of its origin, its course, its composition and the influence on the health as a whole. The effusion may be tuberculous or represent acute infection or it may be the result of perforation of the pleura, but the most common type is that with *eosinophilia; this* latter group is the largest and it indicates a favorable outcome, especially when the tubercle bacilli disappear from the effusion. The effusion in these cases contains specific antibodies, such as are not to be found in the other types. This large antibody content has a favorable influence on the further course. The effusion of the three other kinds has an unfavorable influence, and the pleura should be drained or the fluid drawn and reinjected for autoserotherapy.

Berliner klinische Wochenschrift

December 1, L, No. 48, pp. 2217-2264

86 Pilocarpin in Parapsoriasis. K. Herzheimer and H. Köster.
87 *Joint Disease Merely Expression of Chronic Infectious Process in Nose, Throat or Ear. (Rheumatismus und Tuberkulose.) A. Menzer.
88 Camphor Arrested the Fever in 20 per cent. of 246 Patients with Pulmonary Tuberculosis. K. Weihrauch.
89 *Fluorescein by the Mouth as Test of Kidney Functioning. H. Strauss.
90 Cure of Severe Chronic Kidney Disease by Intercurrent Erysipelas in Boy of 12. F. Glaser.
91 Malformation of Portal Vein. (Cavernöse Umwandlung der Pfortader.) C. Hart.
92 Minute Arterial Hemorrhages in Hemorrhoids. M. Kirschner.
93 Simplified Method of Making Albumin Milk. (Eine vereinfachte Herstellung der Eiweissmilch.) H. Kern and E. Müller.

December 8, No. 49, pp. 2265-2312

94 Pathogenic Importance of Sinusitis for the Eye. (Ueber die wechselseitigen pathologischen Verhältnisse der dem Auge und der Nase benachbarten Höhlen vom augenärztlichen Standpunkte.) J. Fejer.
95 Internal Hemorrhagic Pachymeningitis in Children. O. Rosenberg.
96 Fluctuation in Pressure in the Thorax as Aid to the Circulation. (Die circulatorische Funktion des "Thoraxdruckes.") L. Hofbauer.
97 Severe Anemia with Signs of Pressure on the Brain: Aphasia and Hemianopsia. W. Knoch.
98 Serodiagnosis of Pregnancy. C. Fraenkel.
99 Rapid Technic for Showing Spirochetes in Tissues. E. Gyenes and F. Sternberg.
100 Injury of Liver from Salvarsan. P. Heinrichsdorff.
101 Mouse Favus in Man. (Mäusefavus beim Menschen.) W. Fischer.
102 Bile Culture Medium in Bacteriologic Diagnosis of Diphtheria. Grundmann.
103 Calcium Salts in Internal Medicine. (Bedeutung der Kalksalze für die Therapie innerer Krankheiten.) C. Kayser.

87. **Arthritis Sign of Infectious Process in Upper Air Passages.**—Menzer thinks that there is always some chronic infectious process somewhere in the upper air passages, tonsils, nasal sinuses, bronchial lymph-nodes, or possibly in the ear, which is responsible for the weakening of the organism and metastatic joint disease. The germs at work may be streptococci, pneumococci or even tubercle bacilli. From the hidden focus, on the occasion of "catching cold" or other injury, general infection results, with metastatic processes in joints, the heart or the serous membranes. They may develop slowly and insidiously or with an acute and stormy course. The insidious cases are generally referable to tubercle bacilli, and the whole trouble is liable to be favorably influenced by tuberculin. All treatment of joint disease should proceed on the assumption that the arthritis is merely one manifestation of a central infection. For this reason salicylic medication is not the proper treatment, as this at best merely relieves the symptoms in the joint without combating the central primary cause while it interferes with the natural production of antibodies and development of natural immunity. Treatment should aim to sustain the body in its struggle against the infection, with baths, hot compresses, vaccine therapy, a course of tuberculin treatment, etc. These will aid the organism to conquer its infection and the cure will be a permanent one, not the mere palliative relief afforded by salicylic medication or the like. He gives a number of case histories to illustrate his views and emphasize the folly of treating merely the joint symptoms while neglecting the underlying chronic infectious process. Persons with latent chronic infection of this kind generally show signs of anemia, a tendency to headache and palpitations; they sweat easily and catch cold readily, with frequent sore throats and catarrh of the upper air passages.

89. **Fluorescein Test of Kidney Functioning.**—Strauss says that reliable information can be obtained in regard to the functional capacity of the kidneys by giving the patient, fasting, 1 gm. of fluorescein-sodium in a cup of tea or cocoa in the morning, and then examining the urine voided at ten-minute intervals until it begins to show signs of fluorescence. After thirty hours the urine voided every hour or two is examined anew for signs of the fluorescein. In his experiments with thirty persons he found that the healthy passed distinctly fluorescent urine in from ten to twenty minutes after taking the drug, and that the fluorescence disappeared again after thirty-five or forty hours. At the beginning and close of the test he added a little ammonia to the urine as this rendered the fluorescence more pronounced. In most persons the complexion showed a slightly jaundiced tint, the more pronounced the less perfect the elimination of the drug in the urine. The drug used is the mother-substance of eosin, and as it is taken by the mouth instead of requiring subcutaneous injection, the technic is much simpler than with the usual tests.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

November 28, XVII, No. 6, pp. 603-640. Last indexed Dec. 6, p. 2110

104 *Trauma and Tumor. W. Graef.

104. **Injury as a Causative Factor in Tumors.**—Graef has found 161 articles in recent literature bearing on this subject. It is particularly important in Germany on account of the advanced state of industrial insurance. The German cancer research society has recently begun to class all carcinomas and sarcomas under the heading of cancer, on account of Ehrlich's discovery that an inoculated carcinoma in mice was liable to develop into sarcoma in the course of several generations. But Thiem and others warn expressly against this as liable to lead to great confusion. Graef says in conclusion that one cannot be too skeptical in regard to the participation of trauma as the causative factor in a malignant tumor. Physicians are too apt to accept a causal connection between a trauma and development of a tumor later. The connection is most evident when a metastatic tumor develops at some unusual point as, for instance, in a case reported by Lubarsch in which a cancer developed in the forearm after injury of the arm at this point. Necropsy nine months later disclosed that the tumor was a metastasis of a carcinoma in the esophagus which had caused only two other metastatic tumors, minute nodules in the liver.

Deutsches Archiv für klinische Medizin, Leipsic

CXII, Nos. 5-6, pp. 403-608. Last indexed Dec. 20, p. 2278

105 *Experiments in Intravenous Administration of Nourishment. (Versuch einer vollständigen parenteralen Ernährung.) E. Schott.
106 *Effect of Calcium Salts on Kidney Function. G. Eisner.
107 Sensitizing Effect of Hematoporphyrin and Other Derivatives of the Coloring Matter of the Blood and Bile. (Untersuchungen über die biologische photodynamische Wirkung des Hämatoporphyrins und anderer Derivative des Blut- und Gallenfarbstoffs.) F. Meyer-Betz.
108 The Liver the Chief Organ for Production of Acetone Bodies. (Leber und Acetonkörperbildung.) H. Kossow.
109 Analysis of the Electrocardiogram from Hearts of Warm-Blooded Animals in Situ. G. Ganter.
110 Cavities in the Lung Showing Presence of Fluid in Roentgen Picture. (Lungenkavernen mit Flüssigkeitsspiegel.) H. von Hoesslin.
111 The Absorption of Fluids by Organs Is Increased by Increasing the Concentration of Hydrogen Ions. (Ueber die Quellung von Organgeweben bei verschiedenen Wasserstoffionenkonzentrationen.) M. Koppel.

105. **Intravenous Nutrition.**—Rabbits and dogs were fed by intravenous injection of yolks of eggs in physiologic salt solution. Weight and nitrogen balance were maintained until the beginning of anaphylaxis, which occurred with rabbits on the fourth or fifth day, in dogs on the fourteenth. Several of the animals died from anaphylactic shock. After the beginning of the anaphylactic stage albumin metabolism was limited. Before that, albumin, fat and carbohydrates were utilized as in normal feeding. Schott concludes that the organism can assimilate food material given in this way and thrive on it. (Compare with editorial in THE JOURNAL, Nov. 22, 1913, p. 1908.)

106. **Effect of Calcium Salts on Kidney Function.**—Eisner tested the effect of calcium lactate on normal and diseased kidneys and found an improvement only in one case. In some cases there was no appreciable change, and in some cases there was decreased function. He reiterates in conclusion that a substance which tends to inhibit kidney function is not to be recommended for therapeutic use.

Deutsche medizinische Wochenschrift, Berlin

December 4, XXXIX, No. 49, pp. 2385-2440

112 *Treatment of Apoplexy. (Behandlung akut bedrohlicher Erkrankungen. III.) Grober.
113 Confusion in Our Views of Exanthematous Typhus. (Kritisches zur Lehre von den exanthematischen Typhen.) B. Naunyn.
114 Serologic Diagnosis of Pathologic Changes in Organs. E. Abderhalden.
115 *Pneumococcus Influenza. Walb.
116 *Early Diagnosis of Tabes. (Frühdiagnose der Tabes und der Tabes oligosymptomatica.) A. Austregesilo.
117 Operations on the Kidneys, Appendix and Bladder. (Zur Nieren- und Blasenchirurgie und Epityphlitisoperation.) M. Martens.
118 Mesothorium in Treatment of Cancer. Allmann.
119 Dermatoses from Hair and Fur Dyes. (Hauterkrankungen durch Haar- und Pelzfärbemittel.) A. Blaschko.
120 Iodin in Treatment of Gastro-Intestinal Hemorrhage. (Behandlung von Magen- und Darmblutungen, insbes. typhösen Darmblutungen, mit Tinctura Jodi.) Nottebaum.
121 Simplified Electric Apparatus for Local Passive Exercise of the Muscles. (Ein einfacher Entfettungs- und Muskelübungsapparat.) Hergens.

112. **Treatment of Apoplexy.**—When the apoplexy is due to thrombosis of a vessel in the brain, venesection is directly contra-indicated; the patient already shows symptoms of lack of blood in the brain and treatment should aim to supply more blood to the brain, lowering the head, removing all constricting collars or bands, giving autotransfusion and, best of all, stimulants for the heart. The diagnosis of thrombosis in a typical case reported was based on the gradual oncoming of symptoms, signs of arteriosclerosis, defective heart action, and a history of a previous attack of thrombosis in the leg. The carotid pulse was weak, and the jugular veins showed alternately as grooves and then they protruded in turn. The skin of the face was cool, the peripheral portions and mucosa livid, and if we could look into the fundus of the eyes we would see the vessels contracted. This is the picture with thrombosis, exactly the reverse of that with

true apoplexy, from cerebral hemorrhage, in which hyperemia dominates the picture while with thrombosis it is the anemia At the same time, both have symptoms in common of pressure on the brain

With the thrombosis it is better to refrain from giving anything by the mouth as with the necessary constant reclining the danger of infection from aspirated foreign matter is particularly serious When the blood distends the vessel below the thrombus, leeches might be applied, but it is better to draw the blood away by cold packs to the feet, this leaves the blood still in the body Twitching of the limbs or certain muscles indicates irritation of the brain, or even constantly repeated movements not of spasmodic nature Sedatives are indicated here and small doses of morphin are generally effectual The room must be kept warm and the patient be placed to avoid danger of bedsores, and be kept absolutely quiet and free from external irritation No attempt should be made to treat the paralysis until the acute phase has passed

With embolism the aim of treatment is entirely different, everything must be done to keep the embolus where it is and prevent more from following Measures to increase the blood pressure are absolutely contra indicated, when the physician is at a loss to know which is the graver danger, the collapse in the circulation or the danger of new embolism, he must reflect that the heart has a large amount of reserve power while new embolism may prove fatal at once The head should be kept high and absolute quiet should be enforced If the head is much congested local blood letting may be required A cool foot bath will draw the blood away from the head Try to have the patient sleep Especially with heart disease causing dyspnea and a sense of oppression in the heart region, a little morphin may do great good, relieving the patient of his restlessness and dread The doses should not be over 0 01 or 0 005 gm Recent endocarditis or a valvular defect is generally responsible for the embolism The vessels below the embolus swell

With cerebral hemorrhage, measures to reduce the blood pressure are called for, the head and shoulders are raised, with hot foot baths or mustard packs for the feet, ice to the head, venesection, rectal enemas, with heart stimulants in case of actual collapse but not otherwise The first few days following a cerebral hemorrhage are full of danger, as the hemorrhage may recur, many patients succumb during the following week so that the greatest care is still necessary and absolute quiet must be enforced, keeping out the family No food, but cold drinks should be allowed, milk, sherbet, lemonade, carefully avoiding anything liable to be vomited on account of the danger of aspiration pneumonia After thorough evacuation of the bowels with enemas or a laxative if the condition permits, the bowels had better be kept quiet with tincture of opium, ten drops three times a day for a few days Paralysis of the bladder must be watched for Potassium iodid does not do any good nor operative measures unless trephining may be considered advisable in case of excessive pressure on the brain, but it will raise the blood pressure and thus increase the danger Neisser's technic for puncture of the brain might evacuate fluid blood if present, but it is liable to bring on hemorrhage anew Even with this danger it is safer than lumbar puncture

115 **Pneumococcus Influenza.**—Walb states that at Bonn during the last few years there have been numbers of cases of a febrile affection which seemed to be typical influenza, but for which the pneumococcus was responsible The lesions are in the nasopharynx and may involve the ear and the sinuses of the nose The influenza bacillus was never found in these cases In fact, Walb adds, the hygiene institute at Bonn has not encountered an influenza bacillus for ten years, and the hygiene institute at Berlin says the same

116 **Early Diagnosis of Tabes**—This communication from Rio states that tabes is common in Brazil but that it often is not correctly diagnosed and patients are treated for gastric ulcer, intestinal troubles, neurasthenia, etc, and the tabes left untreated This is the more serious as Austregesilo's experience has shown that vigorous treatment, as for severe syphilis, will arrest the tabes in many cases and cause marked improvement Neither race nor climate seems to have any influence on the frequency of tabes He lists the eight leading symptoms and says that any three of them confirm the diagnosis of tabes, one alone does not make tabes, but may indicate the pretabes stage

Medizinische Klinik, Berlin

December 7, IX, No 49, pp 2007 2052

122 Advantage of Restricting Fluids in Treatment of Chronic Bronchitis (Behandlung der chronischen Bronchitis und Bronchiektasien mit der Durstkur) H Hochhaus
123 Modern Methods of Anesthetization (Anasthesierungsverfahren) A Hoffmann
124 Constitutional Obesity and Internal Secretions F Umber
125 Roentgenotherapy in Pulmonary Tuberculosis O de la Camp and L. Küpferle
126 Bananas and Banana Flour C v Noorden
127 Radium in Treatment of Carcinoma of Mucosa in the Mouth O Schindler
128 Means to Induce Arhythmia in Sound Human Heart (Künstliche Auslosung von Arhythmien am gesunden menschlichen Herzen) A Hoffmann
129 The Blood Pressure and the Blood Picture (Blutdruck und Blutbild) E Münzer

Monatsschrift fur Geburtshulfe und Gynakologie, Berlin

December, XXXVIII, No 6, pp 625 744

130 *The Most Favorable Age at which to Give Birth to the First Child (Ueber das bei der ersten Geburt günstigste Alter) J Richter and V Hiess
131 *Four Years of Amenorrhea after Atmocausis Followed by Pregnancy and Delivery by Removal of the Gravid Uterus G Baumgart and R Benecke
132 Etiology of Caput Succedaneum O Nebesky
133 Influence of the Thyroid on Menstruation and Pregnancy G Schmauch
134 Relation of the Floor of the Pelvis to Prolapse T Schultz

130 **Most Favorable Age for First Childbirth.**—Bondy and Marek recently wrote an article on this subject (*Ztschr f Geburt und Gynak*, LXIX) and Richter and v Hiess take up the discussion of it Their statements are based on 64,022 obstetric cases at the Vienna obstetrical clinic 1892 1911 Among these there were 26,091 primiparae who gave births to normal infants weighing more than 2 500 gm They conclude that the physiologic limits for the first birth are 17 to 26, and within these limits the optimum is between 18 and 23 During this time there are fewer complications for both mother and child This includes four more years for the physiologic limit and three more for the optimum period than Bondy and Marek accept At the ages 14 to 17 complications are more frequent and delivery more protracted on account of insufficient development of the uterine and pelvic musculature They also infer that the period from the twenty sixth to twenty ninth year is not especially unfavorable as the transition to the conditions observed in elderly primiparae takes place slowly and gradually In these two points also they differ from Bondy and Marek

131 **Pregnancy Four Years after Steam Cauterization of the Uterus**—Some years ago there was a lively discussion as to the value of introducing hot steam into the uterus as a treatment for hemorrhage, but not much has been heard of it lately Baumgart and Beneke here report a case which is a contribution to the solution of the question In 1907 a woman who had had three children was treated by atmocausis for hemorrhage from the uterus, and after that time had never menstruated In 1911 she was sent to the hospital with the diagnosis of impacted transverse presentation No fetal parts could be palpated, there was no heart sound and the patient had never felt any fetal movements An abdominal hysterectomy was performed The fetal parts could be palpated only with difficulty even after the abdomen was opened There was a cicatrix in the cervical canal that prevented normal delivery, undoubtedly due to the steam treatment The four years of amenorrhea followed by pregnancy testified that most of the uterine mucosa had been destroyed, so menstruation could not take place But a small area had been left intact, large enough to permit the embedding of the impregnated ovum The great objection to the steam treatment is that there is no possibility of measuring its effect on the mucous membrane of the uterus, and that it is very apt to lead to scar formation which interferes with future deliveries

Münchener medizinische Wochenschrift

December 2, LX, No. 48, pp. 2657-2712

135 The Blood-Producing Organs under Deep Radiotherapy. (Wie verhalten sich die blutbildenden Organe bei der modernen Tiefenbestrahlung.) H. Heincke.
136 Roentgenoscopic Diagnosis of Chronic Appendicitis. G. Singer and G. Holzknecht.
137 *Electric Influencing of the Leukocyte Picture. (Ueber raschwirkende Beeinflussung abnormer Leukozytenbilder durch ein neues Verfahren.) O. Veraguth and R. Seyderhelm. Commenced in No. 47.
138 Technic for Direct Visual Inspection of Esophagus and Air Passages. (Zur Klinik der direkten Untersuchungsmethoden.) F. T. Henrich.
139 *Compression of Tuberculous Lung. (Die Plombierung der tuberkulösen Lunge.) J. Gwerder.
140 Typhoidal Disease Probably Caused by Bacillus Fecalis Alcaligenes. Furth.
141 Dosage of Neosalvarsan. (Zur Gabengrösse des Neosalvarsan.) L. Neumayer.
142 The Petrolatum, not the Bismuth, Responsible for Benefit from Bismuth Paste. (Welches ist der wirksame Bestandteil der Beckschen Wismutpaste?) L. Wacker.
143 *Calcium Chlorid Effectual in Hay-Fever; Five Cases. (Erfolgreiche Behandlung des Heufiebers durch lange Zeit fortgesetzte tägliche Chlorkalziumzufuhr.) R. Emmerich and O. Loew.
144 Treatment of Alopecia Areata. (Zur Therapie des Herpes tonsurans.) F. Thedering.
145 The High School for Physicians and Patients. XIV. M. Nassauer.

December 9, No. 49, pp. 2713-2768

146 *Colloidal Gold Chlorid Test on Cerebrospinal Fluid. H. Eicke.
147 **Puzzling Benign Albuminuria.* W. H. Veil.
148 Misuse of Egg Albumin in Infant-Feeding. (Ueber die missbräuchliche Verwendung von Eiweisswasser bei der Behandlung akuter Ernahrungsstörungen von Säuglingen.) F. Lust.
149 Experimental Transmission of Eye Tumor. C. A. Hegner.
150 Action of Synthetic Oxytocics. (Wirksamkeit synthetischer Wehenmittel.) W. Rübsämen.
151 Improved Technic for Roentgenoscopy. (Durchleuchtungs-Kompressorium mit Bucky-Effekt.) G. Holzknecht.
152 *Sensitiveness of Peritoneum and Abdominal Fascia. J. Hartmann.
153 *To Avert Danger of Embolism from Paraffin. E. Hartung.
154 Means to Remove Tattooing. (Entfernung von Tätowierungen.) K. Stern.
155 *Massage of the Nerves. (Die Nervenpunktlehre von Cornelius und die schwedische Massage.) K. Port.
156 *Artificial Nose. (Ein einfacher Nasenersatz.) F. Zinsser.
157 *"It Won't Hurt." (Die Hohe Schule für Aerzte und Kranke. XV.) M. Nassauer.

137. See abstract 83 in THE JOURNAL, Nov. 15, 1913, p. 1853.

139. **Rubber Ball Compression of Tuberculous Lung.**—Gwerder refers to cases in which adhesions prevent effectual compression by gas. Hitherto treatment has been restricted to detaching the lung—pneumolysis—hoping that it will fall in at the point of the cavity and thus effectually compress it, or to injection of a solid filling to fill up the space. If the lung tissue or cavity walls are tough, pneumolysis does not produce effectual compression, and if a solid filling is injected, it naturally, under the influence of gravity, pushes downward instead of laterally on the cavity. To obviate these objections, Gwerder introduces a light inflatable rubber ball inside the chest opposite the cavity, and by inflating the light ball exerts direct compression exactly at the point where it is required. Experiments on rabbits, cats and dogs showed that the ball is easily introduced, easily inflated as required and to the required amount, and the animals wore the balls for months without apparent injury. When its purpose was accomplished the ball was readily removed. As the wall of the cavity is the point of least mechanical resistance, the pressure from the inflated ball is strongest at this point. The excellent results in the experimental research justify, he is confident, the application of the rubber-ball compression in the clinic.

143. **Calcium Chlorid in Hay Fever.**—Emmerich and Loew report five cases in which a chronic tendency to hay fever was broken up and the patients permanently freed from its grip by continued treatment with calcium chlorid. The drug must be kept up for months, years, indefinitely, as it aims to remedy a constitutional defect—a disturbance, probably, in the functioning of the parathyroid bodies. They recommend all persons with a tendency to hay fever and even the healthy in regions poor in lime, or persons who do not take much milk or vegetables, to keep up the calcium chlorid indefinitely through years. Their experience of three and six years has confirmed, they say, the absolute harmlessness of the drug in the form advocated, while the general health is much improved, persons tire less readily, they require stimulants less, they sleep better, are less subject to infectious diseases, catarrhal affections, bronchitis, etc., the vital processes become less sluggish, and waste is thrown off more readily and completely. They add that Metchnikoff's favorable results with yoghurt are probably due to the lime in the milk. The dosage they advocate is a teaspoonful of a 20 per cent. solution of crystallized calcium chlorid in distilled water, to be taken in a quarter of a glass of water in the course of the three principal meals.

146. **Gold Reaction in Cerebrospinal Fluid.**—Eicke here reports the application of Lange's colloidal gold chlorid test to 323 patients, along with the other usual tests, the Nonne, the cell-count, the Wassermann test and quantitative estimation of the albumin. (Some experiences with the gold test and description of the technic were given in THE JOURNAL, July 5, 1913, p. 13.) Eicke's communication issues from Wechselmann's service at the Virchow hospital at Berlin, and certain slight modifications in Lange's original technic are described and advocated. The reaction occurs according to three types, that with normal fluid, that with syphilitic, and that with inflammatory processes other than syphilitic. With syphilis at the secondary stage the reaction occurs at a dilution of 1/25 up to 1/130, the maximum always being between 1/40 and 1/80, and the tint purple. With general paresis, the maximum runs from 1/10 to 1/640 and the color reaction is a white tint. With tuberculous meningitis the reaction does not begin till 1/320 and runs to 1/1280, tint purple; while with suppurative meningitis the reaction starts at about 1/160 and continues beyond 1/2560, the color reaction running through all the tints down to white and back again to violet. Necropsies in four cases of suppurative meningitis confirmed the findings with the gold test, as also in the 26 cases of tuberculous meningitis.

The reactions with the gold test were thus specific to a remarkable extent and extremely sensitive and reliable, a negative response to the test being obtained constantly in cases of cholera, circular insanity, dementia praecox, and arteriosclerotic dementia, in epilepsy, and in 23 cases of neurasthenia. Only one case of congenital syphilis is listed. The response was constantly positive with the specific type of reaction in the 26 cases of tuberculous meningitis and in all but two of the 24 tabetics and 54 paralytics. The test is particularly instructive in distinguishing between incipient general paresis and neurasthenic disturbances in a syphilitic. In both there may be lymphocytosis and positive Wassermann, but the negative gold reaction will exclude general paresis. The reaction is not so pronounced with tabes as with general paresis and resembles the ordinary syphilis type.

147. **Benign Albuminuria.**—Veil relates in detail the case of a young man with orthostatic albuminuria, especially pronounced when there was much intake of salt. The weight persisted unmodified by the retention of salt, and the blood kept normal. There was also a tendency to bradycardia and irregular respiration rate, with low blood-pressure and eosinophilia. The young man consulted numerous physicians and all had at first ascribed his albuminuria to nephritis and for months he had been kept in bed on an antinephritis diet. The course of the case finally revealed the disturbances to be a psychoneurosis accompanied by chronic albuminuria; treatment on this basis has produced good results. The phenomena observed link the psychoneurosis and the albuminuria: the psychosis, vagotony, orthostatic modification of the secretions, albuminuria and status thymolymphaticus. The mother has exophthalmic goiter, an uncle a psychosis, while father and grandfather are men of unusual talent. The case is an interesting example of the interplay between the organic manifestations of secretory disturbances and psychic anomalies. Every physician who examined him diagnosed nephritis and considered him psychically sound. Veil expatiates on the case as a warning against routine diagnoses. It is possible that the young man might have outgrown the tendency and developed into sounder health if it had not been for the restrictions imposed by the physicians who treated him on the assumption that he had chronic nephritis, with the consequent worry and dread on his part. Both the psychic organism and the physical suffered from the salt-poor diet and restrictions

and both benefited materially when all these were dropped and the patient was urged to lead a normal life and take up sports.

152. **Sensations During a Herniotomy Without an Anesthetic.**—Hartmann is 35 and healthy, and records his sensations as he had an operation done for umbilical hernia without any anesthetic or sedative. The peritoneum proved to be far less sensitive than he had expected. Only when the omentum was pulled he experienced intense pain close to the spine, the pain so severe that it stopped his breathing. The pain was also intense when the fascia was cut with scissors, the pain spreading to the left in a circle, the pain resembling that from an electric shock. The sensation was always in the left side, regardless of where the fascia was being cut. Suturing the fascia and tying the knots elicited similar pain but not so severe. The operation proper did not require so much traction and cutting as he insisted on to test the sensitiveness of the parts, and he thinks that with some will power anyone could stand even a major intraperitoneal operation without anesthesia. Particularly with operations on the appendix, he urges others to refrain from the use of anesthetics so as to study conditions in regard to the sensation of pain in the inflamed peritoneum.

153. **Prevention of Danger of Embolism with Injection of Paraffin.**—Hartung states that the danger of embolism is absolutely averted if the injection is made after the blood has been expelled from the region and the paraffin is allowed to harden before the constricting bandage is removed. The only indispensable condition is that the blood can be properly expelled from the part. This is simple and easy when the injection is to be made in a limb, and it can be managed also for the breast if it is not too firm, and also for the scrotum.

155. **Cornelius' Nerve Points and Swedish Massage.**—In the nervous and other patients with vague disturbances certain points may be tender on pressure, and pain may be induced in them by muscle traction and by fluctuations in the blood supply. Cornelius calls them nerve points (*Nervenpunkte*), and regards them as responsible for a number of disturbances, neurasthenia, hysteria, etc. Pressure on the nerve points does not always induce pain in them; the pain may deceptively radiate or jump to other points, possibly to the other side of the body. Cornelius explains these nerve points as the result of connective-tissue proliferation checking the passage of nerve impulses; this assumption is sustained by the fact that the nerve points can be restored by massage to normal condition, and the additional fact that these nerve points are particularly liable to develop in scar tissue. The nerve point is thus a spot where the functioning of the nerve fibers is mechanically impeded. Massage is done with circular kneading manipulations, and as one works in deeper he feels the tension of the muscle and the typical contraction. Swedish massage works along the same lines as Cornelius' massage of the nerve points, and the experiences with each throw light on the mechanism of the other. Port urges physicians generally to study and practice massage of the nerve points.

156. **Artificial Nose.**—Zinsser regards Hennig's idea of making an artificial nose from a soft material as a great advance in this line. He gives two illustrations "before and after," which confirm the excellent result obtainable. A plaster cast is made over a normal nose and melted gelatin, tinted a flesh tint, is poured into the cast. When it has hardened it is taken out of the cast, holes are made for the nostrils, and the edges are softened with a hot spatula. The artificial nose is then fitted over the patient's deformed nose, and is held in place with a little varnish or mucilage. The edges of the prothesis are made to run out into a thin sheet all around, and this sheet is patted down on the skin with a hot cloth, and a little powder dusted on the edges. Being comparatively plastic, the gelatin nose yields and moves with the play of the face, giving a particularly lifelike look to the new nose. The patients soon learn to make a new prothesis for themselves as needed. The whole procedure is extremely simple, the materials are very inexpensive and the cosmetic effect unusually good.

157. **"It Won't Hurt."**—Nassauer emphasizes the folly and mistake of telling a patient before some slight but needed minor operation that it will not hurt, when it does hurt. The patient is angry at the physician for fooling her and angry at the pain endured and he seldom or never sees her again in his office. It is far better to err on the other side and tell the patient that it will hurt when in fact it can scarcely cause any pain. She will be proud of her endurance when the pain proves less than she dreaded and her confidence in her doctor will increase.

Wiener klinische Wochenschrift, Vienna

November 27, XXVI, No. 48, pp. 1973-2020

158 *Friction Sound as Early Sign of Perforation of Gastric Ulcer. (Das Zwerchfellreiben—ein Frühsymptom der Magenperforation.) A. Brenner.
159 *Dermatosis and Anacidity. W. Lier and O. Porges.
160 Cholesterin Treatment of Splenic Anemia in Infant. C. Cantieri.
161 Symptomatology of Intrathoracic Goiter. A. v. Sarbo.
162 Case of Rabies with Symptoms of Meningitis. J. Goldberg and Oczesalski.
163 *Apoplexy after Lumbar Puncture. G. E. Weinlander.
164 Typhoid Periostitis; Eleven Cases. H. Braza.

158. **Friction Sound as Early Sign of Perforation of Gastric Ulcer.**—Brenner calls attention to a metallic ringing rubbing sound behind, low down under the diaphragm, which he found constantly in five of six cases soon after the perforation. It is caused by the fluid stomach content, mixed with air, crowded between the diaphragm and the distended stomach. It is characteristic of perforation only in the first few hours thereafter.

159. **Dermatoses and Anacidity.**—Lier and Porges have been investigating gastro-intestinal functioning as a possible factor in skin affections, and found nothing to indicate any connection between them in a certain proportion of cases, but in others the connection seemed unmistakable. This was beyond question in four cases of recurring urticaria or furunculosis in which there was gastric anacidity. By administering hydrochloric acid regularly the skin affection was promptly cured. This result was particularly striking in the case of a woman of 30 and a man of 27 who had had for years severe urticaria constantly recurring, absolutely refractory to all therapeutic measures. The lack of the disinfecting action of the normal gastric juice caused abnormal digestive processes and production of toxins in the intestines, and these toxins evidently maintained the dermatosis. By supplying hydrochloric acid from without the digestion righted itself and the toxins were no longer produced in the same way. One of the patients had suffered merely from pruritus, coming on in waves; improvement was evident the day after commencing the hydrochloric acid—thirty drops a day of dilute hydrochloric acid after each of the three meals—and by the third day all tendency to pruritus had disappeared. Another of the patients had eczema and furuncles for ten or eleven months, rebellious to all treatment, but healing entirely within a week after the hydrochloric acid had been systematically taken.

163. **Apoplexy with Fatal Outcome after Lumbar Puncture in Uremia.**—A boy of 12 had acute nephritis with uremia and he died forty minutes after lumbar puncture. Hydrocephalus and various malformations evidently caused a predisposition. The heart kept beating after the boy stopped breathing, and it did not cease to beat for seventeen hours, during which time artificial respiration was kept up.

Gazzetta degli Ospedali e delle Cliniche, Milan

XXXIV, Nos. 143-146, pp. 1495-1542

165 *Alcoholism in Children. C. Ortali.
166 *Prophylaxis of Plague by Bacteriologic Control of Rats. (La difesa contro la peste nel porto di Trieste ed in quello di Genova.) M. Gioseffi.
167 Cerebrospinal Meningitis in Children: Three Cases. E. Palmegiani.

165. **Alcoholism in Children.**—Ortali discusses both the injury from alcoholism in the parents and that from acquired alcoholism in children. He reiterates that a child procreated while one or both of the parents is drunk—even although the parents otherwise are only moderate drinkers—is usually below par in some way, mentally or physically, and refers to the reputation for physical and mental degeneracy borne by "holiday children." Even 1 per cent. of ethyl alcohol in the

water will check the development of the embryo; 2 per cent. will cause development of deformities and the growth is much retarded, while with 4 per cent. there is no growth at all. Alcohol taken as a beverage passes into the ovaries, testicles and prostate and into their secretions. Both ovum and spermatozoa suffer from the injurious effect from the alcohol, which is preeminently a poison for protoplasm. The statistics of criminology show plainly the influence of alcoholism in the parents as a deficiency in the moral sense is one of the commonest manifestations of an inherited taint from alcoholism. The offspring are unusually liable to abuse of alcohol as they grow up; he has investigated this in a number of cases and found a family history of alcoholism in habitual drunkards even although they were brought up entirely remote from their parents, so that the influence of example and training was out of the question. He reports a case of multiple cerebrospinal sclerosis in a young man whose parents had been hard drinkers, and for which no other cause could be assigned. The growth is frequently stunted in districts where there is much abuse of alcohol and the children of persons addicted to alcohol are peculiarly susceptible to tuberculosis. He also cites instances of the wasting away of infants nursing drinking mothers.

Acquired alcoholism in children causes more intense intoxication than in adults and the symptoms are manifested more predominantly in the nervous system; infants are liable to have convulsions but without fever or bowel trouble. When the alcoholism is chronic, the child is restless, grows very slowly and is liable to have insomnia, strabismus and gastrointestinal disturbances, finally wasting away completely. In older children the intoxication resembles more that in adults but there may also be epileptiform convulsions, actual collapse, delirium or maniacal excitement. Intoxication from wine is characterized more by gaiety and excitement, while brandy, etc., bring depression and torpor. In intoxication from liqueurs, absinthe, etc., the plantar reflexes and perception of pain are exaggerated, while they are deadened with ordinary alcohol intoxication.

166. **Prophylaxis of Plague.**—Gioseffi compares the experience at Trieste and at Genoa in regard to warding off plague. Several cases have occurred at various times at Trieste and one was reported there quite recently. When a case is declared, steps are taken to prevent the spread of the disease and no epidemic has resulted in any instance. At the same time, he thinks that the method of prophylaxis in vogue at Genoa is far more logical and is bound to be more effectual. At Genoa the rats are kept under bacteriologic control on board arriving vessels, on the docks and in the warehouses. By this means the infected rats are discovered in time to ward off any spread of the disease to man.

Policlinico, Rome

December 7, XX, No. 49, pp. 1769-1804

168 Technic of Intubation for Auer-Meltzer Insufflation. G. Egidi.

Medical Section No. 12, pp. 529-572

169 Case of Bile Peritonitis without Perforation of Biliary Apparatus. A. Brugnatelli.
170 *Invasion of Muscles and Bone Marrow in Human Tuberculosis (Sulla diffusione della tuberculosi umana ai muscoli e al midollo delle ossa.) C. Sforza and G. Cosco.
171 Serodiagnosis of Staphylococcus Infection. (Contributo clinico al valore diagnostico delle antistafilolisine.) A. Anselmi.

170. **Invasion of Muscles and Bone Marrow by Tuberculosis.**—Sforza and Cosco inoculated numbers of guinea-pigs with scraps of muscle or bone marrow from tuberculous cadavers, striving to determine the extent to which these tissues are invaded by tubercle bacilli. The findings in forty cases are tabulated; the guinea-pigs showed no signs of infection when inoculated with muscle tissue, as a rule, while nearly all died that had been inoculated with bone marrow.

Riforma Medica, Naples

November 29, XXIX, No. 48, pp. 1317-1344

172 Changes in Cerebrospinal Fluid in Cases of Tremor in Children. M. Lo Re.
173 Diagnostic Importance of Determination of Digestive Ferments in the Urine. (Sulla presenza dei fermenti dello stomaco—pepsina e lab—nelle urine.) C. Romagnolo.
174 *Shall Gummatous Tumors in the Liver be Excised? (Sifilide gommoso del fegato.) G. Frattin.

174. **Operative Treatment of Gummatous Tumor in the Liver.**—The excellent results in the case reported confirm the advantages of resecting the tumor in the liver after failure of medical means to relieve. Even if the patient is known to be a syphilitic, the liver process may be of malignant or parasitic nature, while gummatous tumors in the liver are not much influenced by even vigorous antisyphilitic drugging, and one can seldom be absolutely sure that the trouble is actually a syphilitic process, especially when, as in the case described, the patient strenuously denies venereal infection at any time. Frattin reviews the experiences of others with operative treatment of rebellious gummatous tumors in the liver, the consensus of opinion being evidently in favor of a prompt operation. If the tumor should prove to be of malignant nature any delay may prove disastrous.

Semana Medica, Buenos Aires

October 16, XX, No. 42, pp 869-924

175 *Tuberculosis of the Stomach. J. R. Goyena.
176 Treatment of Strabismus. (Teoria de Lagleyze en el estrabismo) J. M. Zubizarreta.
177 Pharmacologic Study of Gourliea decorticans Gillies. (Nota sobre el chañar.) C. E. Campora.

October 23, No. 43, pp. 925-980

178 *Cancer in Argentina; Causes of its Increasing Prevalence. A H Roffo.
179 Artificial Protoplasm and Concentrated Colloids. A. L. Herrera.

October 30, No. 44, pp 981-1060

180 *Serotherapy in Tetanus. J. Penna.
181 The Individual Mind and the Collective Mind. V. M. Farré.
182 *Vaccination against Typhoid. G. A. Alfaro.
183 Purification of Water Supplies. (Eliminacion de los productos cloacales y residuos industriales. Su depuracion biologica e quimica.) P. J Pando.
185 Findings in Cerebrospinal Fluid in Diabetes. C. B. Udaondo.

175. **Tuberculous Gastritis.**—On the basis of a clinical case reported in detail, Goyena draws the clinical picture of tuberculosis of the stomach and the treatment for it. The patient was a woman of 34 with pulmonary tuberculosis and symptoms on the part of the stomach which could be the result only of an ulcerative tuberculous process in the stomach. Under treatment the same as for an ordinary ulcer, the gastric trouble was much improved. Among the measures applied was Tripier's method of hot enemas repeated two or three times during the day. The advanced pulmonary tuberculosis in such cases places the question of operative treatment in another light from that with other forms of gastric ulcer. After eight years of comparative health symptoms on the part of the stomach returned again, this time taking the form of stenosis of the pylorus. During this long interval there had been no further signs of an ulcer but the digestion had never been quite normal. After the stenosis had developed, partial gastrectomy and gastro-enterostomy were the only means of relief.

178. **Cancer in Argentina.**—Roffo cites various statistics which show that the increase in the deaths from cancer in Argentina and in the number of patients treated is due merely to the facts that malignant disease is diagnosed with greater precision now than formerly and that immigration has increased to such an extent. He states that the number of foreigners at Buenos Aires is increasing in a most remarkable way, more than nearly half the population being foreign-born. Nearly twice as many foreign-born are treated in the public hospitals as native Argentinians. Many of the immigrants are at or soon reach the cancer age. Buenos Aires receives most of the foreign element and it is far in the van in regard to the frequency of cancer. With a population of 2,950,384 native born and 1,004,527 foreign born, there have been 58,400 deaths from cancer in the country in the last twelve years. The stomach or esophagus was the seat of the cancer in 20 per cent. each, the pylorus in over 15 per cent. Owing to the large adult male immigration, women are comparatively scarce, and the uterus figures as the seat of the cancer in only 4.03 per cent. In sixty-two cases of cancer of the stomach, twenty-three of the patients were under 40.

180. **Serotherapy of Tetanus.**—Penna reviews his experience with serotherapy in about a dozen cases of severe tetanus. He makes a practice of injecting the antitoxin into a vein once or twice during the twenty-four hours in a dose of not more than 100 c.c. at a time. The effects seem to be equally

good with these small doses as with larger ones. Whenever there are generalized symptoms the outlook may be regarded as threatening, and intravenous serotherapy should be pushed and kept up for two or three days even although the patient may be improving. When the condition does not show a gradual improvement the injections should be made oftener, repeating them every two hours.

182. **Vaccination Against Typhoid.**—Alfaro discusses what has been done in this country and in Europe in regard to vaccination against typhoid and relates his own experience with it in a dozen or more cases of already declared typhoid. This shows the necessity for injecting the vaccine at the earliest possible moment, in case of an epidemic, without waiting for absolute certainty.

St. Petersburger medizinische Zeitschrift

Nov 12, XXXVIII, No 21, pp 255-321. P. Hampeln Festnummer

186 *Congenital Defect in the Ventricular Septum of the Heart without Other Deformity. A Bertels
187 *Auscultation of the Arteries (Das pulsatorische Tonen der Arterien) K Dehio
188 *Clinical Heart Block A. Schabert
189 *Chronic Polyserositis (Die chronische—multiple—Serositis und ihre konsekutiven Stauungserscheinungen) G. Kieseritzky
190 *Serologic Reaction in Heart Disease K Hach
191 Heart and Vascular Disease in the Light of the Wassermann Reaction J Eliasberg
192 *Violent Abdominal Pain with Scarlet Fever E Mey
193 Diagnosis of Anthrax from Spinal Fluid (Milzbranddiagnose durch Untersuchung des Liquor zerebrospinalis) P Prätorius
194 Sarcoma in Lung of Girl under 3 H Schwartz
195 *Relations between Gastro Intestinal Disease and Diabetes I Dietrich
196 Duodenal Ulcer H Laurentz
197 *Splenomegaly of the Gaucher Type J Feiertag
198 Clinical Importance of the Wassermann Reaction O Stender
199 Diagnosis from Cerebrospinal Fluid (Zur diagnostischen Bedeutung der Liquoruntersuchung) E Schwarz
200 Serous Meningitis as Cause of Obesity and Genital Dystrophy. T Schwartz
201 Connection between Eczema and Internal Diseases (Ekzem und innere Erkrankung) M Hirschberg.

186. **Isolated Defect in Ventricular Septum.**—Bertels thinks that the case he reports is the ninth on record in which this congenital deformity was the only one. The heart works extra hard to overcome the effects of the deformity. Several of the persons lived to middle life and some were employed in work that required considerable physical exertion

187 **Auscultation of the Arteries.**—Dehio has published several communications on this subject before, and here states that further time and experience have only confirmed his statements in regard to the instructive findings with auscultation of the arteries, as he shows in twelve clinical cases reported in detail in which there was a spontaneous sound with the pulsation in the femoral artery during diastole. The data cited show that this sound occurs when the arterial pressure and the filling of the artery during the diastole period drop so low that the artery wall becomes completely relaxed and sinks in. The discovery of the spontaneous sound therefore in the artery is a sign of abnormally low blood pressure and defective filling of the artery during diastole. The sound is most pronounced, naturally, in the arteries with wide lumen as the difference between the stretched and relaxed condition of the artery walls is widest in this case

188. **Heart Block.**—Five cases are described in detail and the vast importance of the newer methods of examination, especially sphygmography and electrocardiography are emphasized as having wrought a revolution in our knowledge of the pathology of the heart.

189. **Polyserositis.**—From study of the literature and of several cases of polyserositis in his own practice, Kieseritzky concludes that the multiple serositis may induce two sets of symptoms, two distinct syndromes. One is characterized by inflammation of several of the serous membranes, especially the pericardium and peritoneum, with the resulting disturbances which include besides the chronic inflammation, disturbances from impairment of the circulation. These disturbances in the circulation may be due to the heart itself or to local factors impeding the passage of blood through the parts. The other syndrome is that of a chronic isolated inflammation of the pericardium causing the sheets to adhere together, with disturbances in the circulation, mainly in the liver and portal system. In one of the three cases reported in detail the first symptoms, edema and ascites, had been noticed twenty-five years before, and the affection was diagnosed by a physician six years later. This patient was a merchant of 63; at the age of 31 he had had a protracted attack of acute articular rheumatism, The ascites had been tapped at the age of 45 and had been followed by a laparotomy. It had not required tapping afterward until nearly the end, and the general condition had kept bearable except for occasional attacks of dyspnea. It seems probable that the laparotomy had a favorable influence on the development of the affection. The omentum was found adherent and was separated; the patient was in circumstances which permitted his taking good care of himself and refraining from manual labor, but the fact that necropsy showed the myocardium to be sound was probably an important factor in the long survival.

190 **Deviation of Complement in Heart Disease.**—The serologic findings in fifty cases of heart disease and in eighteen with failing compensation are tabulated for comparison. The severer the heart affection the less the proportion of complement and lysin.

192. **Abdominal Pain with Scarlet Fever.**—Mey states that a man of 26 and a woman of 20 developed suddenly about the end of the third week of scarlet fever intense pain in the abdomen, coming on suddenly and increasing for two or three days and then continuing without intermission till the seventh or eighth day; then subsiding abruptly with the fever which had come on abruptly with the pain and had kept up with it. No tenderness was left and recovery was soon complete and permanent. The pain had nothing of a cramp or colic nature, but kept up day and night, uninfluenced by morphin. A peculiar feature of both cases was that the patients found relief only when lying prone most of the time. Both patients were previously healthy robust young people, and none of the viscera seemed especially tender. Mey thinks that the only explanation of the pain can be the assumption of scarlatinal inflammation of the lymph-nodes deep in the abdomen.

195. **Connection Between Gastro-Intestinal Disease and Diabetes.**—Dietrich has examined the gastric juice in all his forty cases of diabetes and found normal conditions only in 25 per cent. There was severe gastric catarrh or achlorhydria in 67.5 per cent., and this large proportion excludes a casual coincidence. In one case of mild diabetes a severe gastritis developed within a month after the first symptoms of the diabetes. He does not think that the diabetes can be the cause of the gastritis, but inclines to the view that the latter is responsible in some way for the development of the diabetes, and this view is confirmed by the benefit which followed lavage of the stomach. The sugar disappeared completely from the urine in three of the nine cases of diabetes in which he applied lavage without enforcing an antidiabetic diet. He believes that the gastro intestinal trouble can be transmitted to the pancreas, and that in all cases of diabetes the gastro intestinal tract should be carefully examined for pathologic conditions at any point; remedying them may improve conditions in the pancreas, and this in turn will improve the diabetes. At least the condition in the pancreas may be kept from growing any worse and thus the diabetes be kept stationary. There is much to indicate, he says, that more than one organ concerned in the metabolism of carbohydrates must be involved in the causation of diabetes, and that the pancreas is not the one to be affected first. In a certain proportion of cases the pancreas becomes diseased from the spread of inflammation in the duodenum.

197. **Familial Splenomegaly.**—Feiertag describes a family at Riga with nine members three of whom have very much enlarged spleens. He compares the findings in these cases with those in thirty one from the literature. No cause for the splenomegaly was known in his cases except that one of the patients had had rachitis

Ugeskrift for Læger, Copenhagen

December 11, LXXV, No. 50, pp. 1971-2034

202 Precipitation Serodiagnosis of Syphilis (Fældningsreaktionen med glykocholsurt Natron ved primaer Syfilis I and II. Herman og Perutz' Modifikation—Ellermann's Methode 14) H. Bang and C With.

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PRINCIPLES OF THE TREATMENT OF INFANTILE PARALYSIS

ROBERT W. LOVETT, M.D.

BOSTON

The question of the treatment of infantile paralysis *is in these days always before the medical profession* of the United States, because each summer since 1907 has left behind it hundreds and sometimes thousands of victims, and with our added experience and our facilities for clinical observation, unfortunately far greater than anywhere else in the world, our ideas of treatment have progressed and have become more defined. If the point of view advanced in this paper is that of an orthopedic surgeon, it is because in most bad cases the surgeon or the orthopedic surgeon is sooner or later consulted, and these two from seeing end-results are perhaps best equipped to judge of the efficiency of the various forms of the earlier treatment.

EARLY DIAGNOSIS IN RELATION TO TREATMENT

The diagnosis of the disease before the appearance of paralysis is constantly overlooked. This is a cause of dissatisfaction to the family and of mortification to the physician, but probably not of great moment to the patient, for even when a correct or a provisional diagnosis is made early it is doubtful if anything can be done to influence greatly the course of the affection. Flexner's [*] experiments with hexamethylenamin showed that it seemed to have some immunizing effect on monkeys, but that after infection had occurred it had no effect. Still, on the supposition that monkeys and children may not be affected in just the same way, and as the drug in moderation seems to be harmless, the early use of hexamethylenamin seems our best chance. Occasionally cases occur which suggest that it may have been useful. For example, in July, 1911, three children in one family were affected at intervals of three or four days with fever, prostration and gastro-intestinal disturbance. The diagnosis of the first case was made only after the second child was in the height of her attack and before the third was affected. The first child received no hexamethylenamin, the second had a little, and the third had large doses from the beginning. The first child was severely paralyzed from the waist down, the second had weakness of the legs and back for a few months, and the third had no muscular involvement. All were equally sick. Such an observation, of course, proves nothing, but in connection with the early history of other cases that I have analyzed has made me feel that the early use of hexamethylenamin is desirable in suspected cases.

TREATMENT OF THE ACUTE PHASE

Little time need be spent in discussing the general measures of rest, catharsis, light feeding and quiet, which are universally agreed on. If any criticism is to be made it is that children slightly affected are often allowed to be too active; but generally the patient is so ill at first and so tender after the attack that this matter takes care of itself.

In formulating the treatment of the acute attack and of the days following we have only to remember the pathology of the affection. It is essentially a hemorrhagic myelitis with a widely distributed accompanying meningitis. Such a condition obviously demands general quiet, freedom from excitement and activity, and recumbency for a period of days or weeks. Even in the slighter cases the lesion cannot be immediately recovered from, and the observations on monkeys have taught us that some of the muscular paralysis is due to an edema in the cord accompanying the hemorrhagic process. The need of the measures spoken of must be self-evident, and my own practice has been to secure for even the slightest cases quiet for at least two or three weeks, and for the severer cases quiet until all tenderness has disappeared.

It must be said, however, that comparison of different treatments must be made with care, for no two cases are alike, the dose of poison or the individual resistance varies enormously, and the condition in the acute attack gives no very accurate means of telling what the ultimate outcome will be, except that the general conclusion may be formulated that on the whole very severe attacks are most often accompanied by severe paralysis and slighter attacks by more moderate and slighter forms.[1]

Two hundred and thirty-four cases of paralysis occurring in Massachusetts in 1907 were investigated in 1911 by a competent orthopedic surgeon.[2] Seeing as many of the patients as could be traced, he found that 25 per cent. had wholly recovered without regard to whether they had or had not been treated, and, moreover, that the analysis of the early history of these cases showed them to be average cases and that they could not in the early stage have been picked as cases in which the patients were especially likely to recover.

All of this goes to confirm the statement that the outcome of the case is not wholly determined by the treatment received, a point which parents are slow to grasp.

TREATMENT OF THE TENDER CONVALESCENT PHASE

Any rigid division of the disease into stages is misleading and out of accord with facts, because one stage melts into another so gradually that a dividing line is impossible. Still there are different aspects of the affection, which have been spoken of here as phases.

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[*] Flexner, Simon, and Clark, Paul F.: Experimental Poliomyelitis in Monkeys, The Journal A. M. A., Feb. 25, 1911, p. 585.

[1] Lovett, Robert W., and Lucas, W. P.: Infantile Paralysis, a Study of 635 Cases, The Journal A. M. A., Nov. 14, 1908, p. 1677.

[2] Wood, B. E.: Boston Med. and Surg. Jour., Oct. 5, 1911.

Following the subsidence of fever the patient is generally paralyzed in one or more limbs, tender to the touch and on motion, somewhat prostrated, and generally shows the results of a general infection. The latter, however, is soon recovered from, although in the severer cases the patient is generally below par for some time. This is the period when spontaneous improvement will begin, and the family may be assured that improvement which they can see will occur in a few weeks. It is generally difficult to make the family and the practitioner who has not had much experience in the disease understand that the best treatment at this stage is to let the patient alone except for preventing contraction of the Achilles tendon, which may occur to a troublesome extent in the first two or three weeks.

So long as tenderness lasts it may be accepted as evidence of the existence of some degree of active myelitis around the motor and especially the sensory centers of the cord. Under these condition it seems unphysiologic to stimulate by passive movements, massage or electricity the peripheral parts connected with those centers. Yet the early use of these measures is a common practice.

The tenderness may last from two to three months after the attack, and a perfectly inactive treatment is hard to pursue when the family has heard of the wonders of electricity and massage, and is anxious not to lose time. But so long as the tenderness lasts, the best practice is to let the patient alone so far as active treatment goes. Frequent changes of position are desirable, and there is no objection to the sitting position for the convalescent, to outdoor air, or to immersion in a warm bath with whatever active movement under water may be accomplished without discomfort.

There is no danger that the joints will stiffen, and in the first weeks the only troublesome complication to be feared, as has been said, is contraction of the Achilles tendon. If this is occurring it is justifiable to stretch the posterior muscles gently with the hand, even at the risk of causing some discomfort, rather than to allow a permanent contraction to occur. The easiest means of preventing the contraction is from the beginning to have the soles of the feet rest against a box covered with a blanket placed against the bottom of the bed, which holds the feet at a right angle to the legs. Unless this is done the weight of the bed-clothes and the dropped position of the unsupported foot in sitting will in most cases cause some degree of talipes equinus. The frequency with which this complication is seen in practice shows that it is not an imaginary danger.

TREATMENT OF THE CONVALESCENT PHASE AFTER TENDERNESS HAS GONE

With the disappearance of tenderness the time for active treatment has begun, and the sooner the patient is put on his feet and resumes activity the better. It seems probable on general principles that in cases of any degree of severity, even if tenderness disappears earlier than four weeks, active treatment should not be begun before that time, while some authorities would forbid active measures before the expiration of six weeks from the onset. In my experience, however, I have seen nothing but good come from instituting treatment at four weeks when the disappearance of tenderness has warranted it. The general condition of the patient, moreover, must not be neglected, as many of the children at this time have not wholly recovered from the effects of the infection, and are anemic, poorly, and easily fatigued.

The therapeutic measures at our disposal are massage, electricity and muscle training.

Massage may be expected to improve the local and general circulation, to facilitate the flow of lymph, and to retard muscular deterioration. It cannot, however, be expected to facilitate the transmission of a motor impulse from the brain to the affected or weakened muscle. In estimating its value in the treatment we must remember that it is only a part of the treatment.

Electricity is less highly regarded in the treatment than was formerly the case. The unintelligent use of electricity month after month to the exclusion of other measures has been one of the handicaps which has stood in the way of the best progress in many cases. It is quite possible that it may improve the muscular condition, and it may induce the contraction of muscles which cannot be reached otherwise, but its value has apparently been overrated, and in my own practice I have seen no convincing evidence that its use was beneficial, and I have preferred to concentrate on the measures which I could see were of distinct use.

Muscle training is apparently the most useful of the three therapeutic measures mentioned, apparently because it rests on the best physiologic basis. This is what happened before the attack, and what we want to have happen again, when the child desires to contract a certain muscle, to perform a certain motion: An impulse to move the muscle started from the motor area in the brain, and descended along the spinal cord motor-tracts to the spinal center controlling that muscle, where it was modified and distributed to the proper motor nerves and sent along them to cause muscular contraction. By the disease, certain spinal motor centers were destroyed, and can therefore no longer act to distribute motor impulses to their muscles. But such spinal centers and their connections are complicated affairs, and every muscle is connected with several centers, every center sends impulses to more than one muscle, and, moreover, the connections between the spinal centers are many. Unless, therefore, the destruction in the cord has been a very extensive one it is likely that some of the motor centers in any one region will have escaped destruction, and that it may be possible to establish new connections around the destroyed centers. If a railway wreck occurs on the main line and the track is blocked it is often possible to send trains by means of a branch line around the obstruction, so that service between the terminals is maintained. In the same way after a wreck of certain nerve centers it may be possible by a modified route to send a motor impulse from brain to muscle. On this principle of establishing new connections and opening new paths rests most of the claim of muscle training, but not entirely on this, because on account of the local edema of the cord accompanying the infiltration and hemorrhagic process certain motor centers are temporarily put out of order but not destroyed. Muscle training aids these to recover function.

Muscle training in its most obvious form consists in aiding the patient to perform a certain movement with the hope of stimulating an impulse from the brain to the weakened or paralyzed muscles. If, for instance, the dorsal flexors of the foot do not act, through being stretched, weakened, partly paralyzed or wholly paralyzed, in the exercise the foot is dorsally flexed with the hand and the patient directed to assist. If there is any muscular response less and less aid is given to the muscle by the hand, and it may be that in this way it can be trained to perform its function. A detailed account of the exercises for the different groups of muscles has been given by Wright.[3]

In my personal experience the success of muscle training and other measures has been greater in the legs than in the arms.

Another and equally useful form of muscle training consists in getting the patient on his feet at the earliest possible moment in order to call forth the instinctive muscular actions induced by the efforts to walk and balance. Even before it is possible to make much progress in this way, sitting is useful for the spinal and trunk muscles.

THE USE OF APPARATUS AND BRACES

Many patients at the beginning are unable to stand without apparatus, because, for example, the knees flex on account of weakness or paralysis of the quadriceps muscle. In these cases a caliper splint should be applied to hold the knees straight.[4] If the feet roll in or out varus or valgus braces should be applied. If the spine or abdomen is involved, a corset or jacket should be worn. Crutches are at first necessary in cases of paralysis of both legs. In other words, if the standing position induces malposition, such malposition must be corrected, because nothing but harm can come of it.

The fear that the early use of apparatus will promote muscular atrophy is wholly unreasonable, because nothing is so bad as disuse, and braces should mean the upright position, and the upright position means more muscular activity. The best way to avoid wearing a brace permanently is to put it on early and keep it on as long as necessary. For a growing child to walk about with a malposition is to bid for a permanent deformity.

DEFORMITY

If fixed deformity exists, it must be removed before treatment of any sort can be satisfactory. By fixed deformity is meant a condition in which the functions of a joint are limited, in which its arc is restricted. If a child sits with the foot dropped and it can be normally flexed by the hand to its normal extent it is merely a malposition; if it cannot be brought to a right angle it is a deformity. The difference is an important practical one.

The common and most troublesome deformities in neglected cases are fixed contractions of the feet in varus, valgus or equinus, flexion of the knees and contraction of the fascia lata, causing contraction of the thighs on the body. These deformities are easily remedied by stretching or cutting, and this is an essential preliminary to other mechanical or operative treatment. One should, however, be careful about cutting the Achilles tendon without some further operation when the anterior leg muscles are paralyzed, as an unsatisfactory limp and powerless foot may result.

The most troublesome deformity of all is lateral curvature of the spine, which occurs to some degree in most cases in which the shoulder, back or respiratory muscles are involved, which should always be watched for. Many errors would be avoided if every child with infantile paralysis were stripped and examined for scoliosis. It is singularly resistant to treatment, and when it affects the cervicodorsal region is practically not to be controlled. Lower down in the spine it may be greatly benefited by proper jackets and exercises. But such jackets must be applied early and worn persistently, because the cause, the unilateral muscular paralysis, is always present to aggravate the condition.

OPERATIVE TREATMENT

It is my purpose in this paper to give only the briefest possible outline of operative treatment. Operations are undertaken:

1. To correct fixed deformity.
2. To improve muscular function.
3. To secure stability of useless joints.

1. The correction of fixed deformity has already been dealt with.

2. The improvement of muscular function is accomplished by the transference of the tendinous end of a sound muscle to the place of insertion of a paralyzed muscle, so that its function is substituted for the lost function. The operation is useful in carefully selected cases, and must rest on careful anatomic study. The technic is of great importance, and has been fully discussed.[5]

The operation should not be performed until two or three years after the acute attack, and is not suitable for very young children. The passage of a considerable length of time since the attack is not a barrier to operation, and it is useful in adults.

The most important recent additions to our knowledge are that insertion into bone or periosteum (preferably the former) is preferable to insertion into tendons, and that silk elongation of the tendon may be performed with impunity and makes the operation much more widely applicable. Good function in the operated limb cannot be expected under six months.

3. The stability of flail and useless joints may be secured in several ways.

Arthrodesis, or the production of artificial ankylosis, in such a joint is obtained by opening the joint and removing the articular cartilage. In the ankle it has been most used, and under proper conditions furnishes a stiff ankle so that the patient need not wear a brace. It is, however, not to be done unreservedly. There is no use in stiffening an ankle unless the knee is good and can bear weight, and it is not to be done in children under 12, or a serious deformity may follow, incident to the growth of the foot, which may cause a bad varus. Arthrodesis of the knee should never be attempted in children on account of the danger of interfering with epiphyseal growth, and most adults prefer a brace which can be unlocked for bending when sitting down, to a permanently stiff leg. At the hip it is an operation little used, and chiefly to be considered when the hip is dislocated and can be reduced. In the shoulder it is sometimes useful.

Silk ligaments at the anterior aspect of the ankle are much to be preferred to arthrodesis in cases of flail ankle, because they do not cause a stiff joint, but allow dorsal flexion while they check plantar flexion or dropping of the foot; they do not cause bony distortion, and they may be safely used in middle childhood. Just as the silk elongation of a muscle is coated with fibrous tissue and becomes a tendon, so does silk inserted to check joint motion become coated with fibrous tissue to form a ligament.

In the technic one or two matters are of much importance. The crest of the tibia above the ankle is exposed. periosteum incised and turned back, and a hole drilled in the bone. One of the bones in the tarsus at the inner or outer side of the foot, or both, as the indication for support determines, is drilled in the same way, and one or two strands of heavy silk are passed through the tibial hole under the annular ligament, through the tarsal hole, and tied. The knot must come in the upper wound, as otherwise it is likely to chafe through from pressure of the boot. At least three months' support is necessary, and probably more.

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[3] Wright: Muscle Training in the Treatment of Infantile Paralysis, Boston Med. and Surg. Jour., Oct. 24, 1912.

[4] Methods of Treatment in Infantile Paralysis, Department of Orthopedic Surgery, Harvard Medical School, Boston Med. and Surg. Jour., June 30, 1910.

[5] Lange, F.: The Orthopedic Treatment of Infantile Paralysis, Am. Jour. Orthop. Surg., August, 1910; Ergebnisse der Chirurgie und Pathologie, Payr and Küttner, Berlin, 1911, ii, 1.

The application of silk ligaments to other joints has not been fully worked out. In my own practice I have not done an arthrodesis of the ankle for dropped foot for several years, because the results of the silk ligament operation are so much more satisfactory. Other operations for fixation are advocated.[6]

In cases of paralytic calcaneus deformity, the Whitman operation[7] consists in removing the astragalus and setting the foot back in relation to the leg. After the operation the foot should be placed in the equinus position.

CONCLUSION

The foregoing seems to me to be a summary of the modern treatment of infantile paralysis, colored of course by my own personal experience. I think that those of us who live in communities which have been severely affected become every year more hopeful and more persistent in our efforts. There seems no time limit as to improvement, and many of the most neglected cases seem the most striking when they come to proper treatment. I have merely tried to show that a treatment based on our more recent knowledge of the disease differs in some respects from our former ideas, which were based on smaller experience and a less exact pathology.

234 Marlborough Street.

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[6] Putti: Bull. d. Sc. Méd., lxxxiii, Series 8, 1912, xii. Bartow and Plummer: Buffalo Med. Jour., January, 1912.

[7] Whitman: Treatise on Orthopedic Surgery, ed. 4, Lea and Febiger, Philadelphia.

THE MECHANISM OF RECOVERY IN PNEUMONIA

WITH SPECIAL REFERENCE TO THE CRISIS

LUDVIG HEKTOEN, M.D.
CHICAGO

In many acute infectious diseases convalescence often sets in abruptly. Within a few hours the temperature may fall several degrees, and forthwith there is a marked improvement in all the symptoms. This sudden change for the better is known as the crisis. Pneumonia, erysipelas, measles, the varioloid diseases and recurrent fever are diseases in which recovery or improvement frequently occurs by crisis.

In lobar pneumonia the crisis is a most characteristic phenomenon. Here it may take place with a suddenness without parallel in other disorders. In somewhat more than one-half of the cases "after the symptoms have lasted some five to eight days, less frequently a longer or shorter time, while at a constant height or even while increasing in severity, there is a rapid fall in the temperature with copious perspiration and rapid improvement in all the symptoms."

This abrupt change "from a state of extreme hazard and distress to one of safety and comfort" has excited interest and speculation in regard to its nature and mechanism since long ago. The early explanations are connected with the doctrine of critical days, a pet dogma of the galenic system, and appear to us as fanciful and of only historical interest. To attempt a brief review and summary of what is actually known of the reactions that occur at the time of crisis in pneumonia may be of interest, especially as it necessarily involves some discussion of recent advances in investigation concerning the specific cause and treatment of this dreaded disease.

MECHANISM OF HEALING AND IMMUNITY IN PNEUMOCOCCUS INFECTION

Soon after the discovery by Fraenkel and others that typical lobar pneumonia is caused by the micro-organism now commonly called the pneumococcus, G. and F. Klemperer[1] demonstrated that one can immunize animals against pneumococci, and that the blood-serum of such animals may have preventive and even curative powers with respect to pneumococcus infection. This is the starting-point of investigations of an immunologic nature the object of which has been to obtain an insight into the nature of the crisis and the cure of pneumonia.

The Klemperers explained the crisis as the result of a rapid detoxication due to the antidotal action of substances similar to diphtheria antitoxin, but as no one has succeeded in showing that pneumococci produce true toxins with antigenic powers like diphtheria and tetanus toxins, this idea that the cure of pneumonia is the effect of a direct antitoxic action remains without experimental support.

The antitoxic hypothesis was abandoned, and eventually the attention of investigators became focused on reactions which are antimicrobic rather than antitoxic: that is, which cause destruction of the invading microbes and thereby put an end to the processes that are responsible for the disturbances caused by the infection. This destruction is accomplished in some cases principally by direct solution or lysis and in other cases principally by intracellular, that is, phagocytic action, both being essentially digestive processes. In certain infections, notably the streptococcal and the pneumococcal, the phagocytic reaction appears to predominate.

In 1897 Mennes[2] discovered that the serum of animals immunized against pneumococci contain substances that in some way promote phagocytosis of virulent pneumococci which resist the phagocytes in the presence of normal serum. This very important observation did not attract the notice it merited, and it was not until some years later when Wright[3] described the opsonins and when Neufeld[4] quite independently discovered the bacteriotropins that the study of the mechanism of healing and immunity in pneumonia received a new impetus which still is effective and fruitful.

Wright gave the name of "opsonins" to substances in normal serum that attach themselves to bacteria and thereby render them susceptible to phagocytosis, and Neufeld applied the term "bacteriotropins" to substances with like action in the serum of immunized animals. There appears to be no fundamental difference between the opsonins and the bacteriotropins. Both are specific; that is to say, normal serum contains a variety of opsonic substances, each of which is specific for a given bacterium, and in immune serum the specific opsonic substance for the particular bacterium or cell with which immunization has been produced is developed in high degree. Both owe their full effect to the interaction of two substances, one of which is destroyed on heating the serum to 58 C. (136.4 F.) for thirty minutes, while the other substance remains unaffected. The latter is opsonic by itself, but its action is enhanced by the heat-sensitive element, and it is the heat-resistant element which is produced anew and specifically by experimental immunization or as the outcome of spontaneous infections.

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[1] Klemperer, G. and F.: Berl. klin. Wchnschr., 1891, xxviii, 833.

[2] Mennes: Ztschr. f. Hyg. u. Infektionskr., 1897, xxv, 413.

[3] Wright and Douglas: Proc. Roy. Soc., 1903, lxxii, 357; ibid., 1904, lxxiii, 128.

[4] Neufeld and Rimpau: Deutsch. med. Wchnschr., 1904, xxx, 1458.

Whether we call these substances opsonins or bacteriotropins is perhaps a matter of taste, but in English literature custom favors the use of opsonins, although writers occasionally, and incorrectly, speak of bacteriotropins as different and distinct from opsonins.

While pneumococci of a low grade of virulence, and hence susceptible to the opsonic action of normal serum, in the test-tube experiment grow freely in normal serum and also in suspensions of washed leukocytes in salt solution, they are destroyed within the leukocytes in mixtures of washed leukocytes and fresh serum. This is readily demonstrable by means of plate cultures made at proper intervals with fixed quantities of such mixtures, and, other things being equal, the greater the number of leukocytes the greater the destruction of pneumococci which undergo solution or digestion within the cells.

Highly virulent strains of pneumococci resist phagocytosis under these circumstances apparently by virtue of containing a peculiar substance, discovered by Rosenow[5] and called virulin, which being readily soluble in salt solution may be extracted from the bodies of such pneumococci by soaking them in the solution.

As stated, however, immune serum may subject virulent pneumococci to phagocytosis, and such serum may protect susceptible animals against multiples of the fatal dose of pneumococci and even cure an established pneumococcus infection. Here an important reservation is to be noted: Neufeld[6] and others find that not all cultures of pneumococci respond in this way to the action of an immune serum prepared with the aid of a particular strain. Some strains will resist while others do not. Hence pneumococci as they exist in nature are not all alike in their biologic reactions, but *fall into separate groups.*

The recent work of Rosenow[7] shows that these groups do not necessarily represent absolutely fixed types, as they are subject under experimental conditions to radical changes and intermutations. The occurrence, however, under natural conditions of groups of pneumococci that for the time being at least have nothing in common so far as their reactions of immunity are concerned, is of the greatest interest because of its bearing on specific therapy and other problems of pneumonia.

Dochez and Gillespie[8] find that the pneumococci from cases of pneumonia form four distinct groups according to their immunity reactions. The agglutination test gives the same grouping as the much more difficult protection test, and Cole,[9] using agglutination to determine promptly to which group the pneumococcus in the individual case belongs, has obtained really promising results with the strictly specific serum. At present this is the most rational and hopeful basis we have for the development of an effective serum treatment of pneumonia.

The fact that pneumococci form separate groups is possibly of interest also in connection with repeated attacks of pneumonia at short intervals. These are now ascribed to an inadequate or too brief an immunity, but they may be caused at least in some instances by infections with strains of pneumococci that are not subject to the same immunity.

Returning now to the crisis and cure of pneumonia, we have to consider especially three factors, namely, the pneumococci, the leukocytes and the opsonic and protective elements in the blood.

VIRULENCE OF PNEUMOCOCCUS AT CRISIS

Is there a sudden loss of virulence in the infecting pneumococcus at the time of crisis?

Fraenkel and others concluded from results of inoculation of animals with pneumonic sputum, or with pneumococci isolated from the blood of animals inoculated with pneumonic sputum, that there is a definite fall in virulence shortly after the crisis, and it has been suggested that in cases in which there is recovery by lysis, the loss of virulence is more gradual and like the fall of the temperature in such cases. The methods used by these experimenters are not quite satisfactory. Thus the number of pneumococci in the sputum varies from time to time and especially after crisis. It is consequently not surprising that others obtained contrary results.

Graham[10] studied the phagocytability of pneumococci isolated directly from the sputum of pneumonic patients, but obtained no signs of any increase or decrease of virulence of the sputum organisms in the course of the disease. Theoretically, this method would seem serviceable, because avirulent pneumococci are readily phagocytable, while virulent ones resist phagocytosis in the presence of normal human serum. There is, of course, the possibility that even a brief sojourn in the sputum may reduce the virulence, and Leutscher[11] did find that the saliva has an attenuating influence on the pneumococcus. Leutscher made elaborate tests on animals of the virulence of pneumococci from the sputum in pneumonia, but did not obtain evidence of any sudden drop that might account for the crisis. His results indicate that so long as pneumococci are coughed up from the lungs they retain their original virulence.

We may conclude then that so far as the results of the work on pneumococcus in the sputum go, there is no evidence that the crisis in pneumonia is due to a crisis in virulence.

Nor is there any evidence that the pneumococci in the blood and in the lungs in pneumonia suddenly lose virulence at the time of crisis; whenever isolated during life from these sources they appear to have a high degree of virulence.

The indications are that pneumococci occur in the circulating blood in every case of lobar *pneumonia,* at least in the earlier stages in the cases in which there is recovery, and in increasing numbers in the cases that proceed rapidly to a fatal end. At the time of crisis the blood is sterile in the majority of the cases, but in cases with complications and delayed resolution, *blood-*

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[5] Rosenow: Jour. Infect. Dis., 1907, iv, 285.

[6] Neufeld: Arb. a. d. k. Gesundheitsamt, 1910, xxxiv, 293.

[7] Rosenow: Tr. Chicago Path. Soc., 1913, ix, 61.

[8] Dochez, A. R., and Gillespie, L. J.: A Biologic Classification of Pneumococci by Means of Immunity Reactions, The Journal A. M. A., Sept. 6, 1913, p. 727.

[9] Cole, Rufus: Treatment of Pneumonia by Means of Specific Serums, The Journal A. M. A., Aug. 30, 1913, p. 663.

[10] Graham: Jour. Infect. Dis., 1908, v, 273.

[11] Leutscher: Jour. Infect. Dis., 1911, ix, 287.

cultures not infrequently yield pneumococci that are virulent; only occasionally are pneumococci found in the blood after crisis for a short time in cases running a normal course.

Studying the exudate as obtained by puncture of the lung during life, Rosenow[12] found disintegrating pneumococci both within and outside the leukocytes, especially in the latter stages of the attack. In the early stages living pneumococci were always present, and in fatal cases in large numbers throughout the attack. In the patients who recovered by crisis, the number of cocci fell, sometimes abruptly, as crisis was approached, and when the blood had become sterile the exudate was also sterile.

All things considered, we must conclude that crisis does not mark a point at which the invading pneumococci suddenly become avirulent, but rather the point at which a more or less complete and rapid destruction of the organisms is accomplished.

THE LEUKOCYTES IN PNEUMONIA

That the leukocytes constitute an integral factor in the defensive mechanism of the body against the pneumococcus must be accepted as settled. Their behavior in pneumonia with regard to the crisis is significant. In favorable cases a marked leukocytosis appears early and disappears with the crisis, the fall being a little later than the fall in the temperature, especially when there is delay in resolution. Clinicians see in a falling leukocytosis without crisis, and in the absence of leukocytosis, a bad omen and indications of failing resistance and overwhelming infection.

The phagocytic and destructive powers of leukocytes appear to vary under different conditions. In certain acute infections with leukocytosis there is a non-specific increase in phagocytic activity when the outlook seems favorable, perhaps because of a preponderance of young cells. In pneumonia the leukocytes may be more resistant to heat than normally, have more attraction for pneumococci, and even take up pneumococci that rebuff normal leukocytes (Rosenow). Tunnicliff[13] found that in mild cases of pneumonia the leukocytic activity as a rule is above normal, while in severe cases it may be subnormal at the height of the disturbance, rising above normal as improvement sets in.[14]

Even if the leukocytic activity remained unchanged, there still would be a marked increase in the destructive power of the blood, other things being equal, because of the great increase in the number of the leukocytes.

As the pneumonic exudate begins to disintegrate, intraleukocytic ferments and other substances are set free that in all probability are pneumococcidal and no doubt contribute to the destruction of the free pneumococci, many of which, when examined in smears, seem to be in process of solution. But crisis can hardly be wholly dependent on resolution, because, while they usually concur, the crisis may precede resolution.

We observe, then, that the acme in number as well as in activity of the leukocytes in pneumonia appears to bear such relation to the crisis that it is logical to assume that they are directly concerned in its production.

THE ANTIBODIES IN PNEUMONIA

Crisis in most cases of pneumonia occurs between the fifth and tenth days of the attack, which usually is held to begin with the chill. Undoubtedly, the infection actually begins a little earlier. Whenever substances calling forth specific antibodies are introduced into the body in moderate quantities, it requires a few days before the antibodies accumulate in any considerable amount in the blood, the high points being reached about the tenth or twelfth day, so that the time when the *crisis occurs corresponds closely to the high point of the antibody curve in general.*

Let us now briefly review what is known of antibody formation in pneumonia in order to learn what relation this may bear to crisis.

Using a readily phagocytable pneumococcus, Wolf[15] found that in typical pneumonia the specific opsonin as measured by means of the opsonic index is subnormal in amount at first, but rises above normal as the crisis is passed, reaching its height soon afterward, whereupon there seems to be a speedy return to normal. In fatal cases the index may drop lower and lower. Boettcher[16] also found that as a rule the opsonic power of the serum was higher the nearer the crisis.

Testing the combined effect on pneumococci of serum and leukocytes by means of the plate method, Eggers[17] *determined that in most cases of lobar pneumonia the* antipneumococcal, that is, the opsonic, power of the serum increases, *being as a rule greatest at or just after* the onset of crisis and lasting a variable period afterward. In the cases in which this increase did not occur the course was irregular or the termination fatal.

Still others have made observations to the same general effect; but as increase in opsonin was demonstrable with respect only to non-virulent or feebly virulent pneumococci, highly virulent pneumococci such as are present in the blood in pneumonia apparently not being affected by the serum at all, doubt was expressed whether the results of the estimation of opsonin really were as *significant as they at first sight would appear to be.*[18] *It was urged that if phagocytosis plays a decisive rôle in the cure of pneumonia, then surely pneumonic serum* would be actively opsonic for virulent pneumococci. Just recently it has been found that this is so. The trouble with the early experiments seems to have been that the tests were not made with the pneumococcus infecting the patient whose serum was used, as Clough[19] finds that soon after crisis as well as during lysis the pneumonic serum may be actively opsonic for the homologous organism in a highly virulent state, and such *activity may be limited quite strictly to the homologous* strain, illustrating well the peculiar group limitations of the antipneumococcal reactions.

The most striking evidence, however, of the increase in the antipneumococcal power in recovery from pneumonia is furnished by the action of the serum in protecting animals against homologous pneumococci of extreme virulence.[20] We now have the results of several series of faultless experiments showing that there is a definite clean-cut rise in the protective power of the serum coincident with crisis and observable also during lysis. From 0.001 to 0.2 c.c. of postcritical serum may protect against a thousand—yes, even a million—times the single fatal dose of homologous pneumococci, but even so highly potent a serum quickly reaches the limit below which its protection is ineffective. A certain amount of antisubstances in proportion to the weight of the animal is essential, and Neufeld[20] suggests that in pneumonia the antibodies formed remain powerless until they reach this necessary concentration, whereupon the pneumococci are destroyed quickly by the phagocytes, and crisis results. The protective action of pneumonic serum is due to the same antisubstances as in the serum of immunized animals, namely, substances that promote phagocytosis, and Clough found that the protective power strictly parallels the power to render virulent pneumococci phagocytable.

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[12] Rosenow: Jour. Infect. Dis., 1911, viii, 500.

[13] Tunnicliff: Jour. Infect. Dis., 1911, viii, 302.

[14] Here it may be noted too that Hiss and Zinsser (Jour. Med. Research, 1908, xix, 322), found that extracts of leukocytes of immune animals seemed to possess greater curative powers than extracts of leukocytes of normal animals. Concerning increased phagocytic activity of leukocytes in acute infectious diseases see also Schaefer-Hieber (Deutsch. Arch. f. klin. Med., 1913, cxii, 14).

[15] Wolf: Jour. Infect. Dis., 1906, iii, 731.

[16] Boettcher: Deutsch. Arch. f. klin. Med., 1909, xcviii, 93.

[17] Eggers: Jour. Infect. Dis., 1912, x, 48.

[18] Strouse: Jour. Exper. Med., 1911, xiv, 109.

[19] Clough: Bull. Johns Hopkins Hosp., 1913, xxiv, 295.

[20] Neufeld: Ztschr. f. Immunitätsforsch., 1910, iii, 159. Dochez: Jour. Exper. Med., 1912, xvii, 665. Clough: See Footnote 19.

Another important change in the serum at the time of crisis is the development of the power to digest pneumococcus proteins described by Dick.[21] The serum now contains substances that split up these proteins, producing digestive products which are easily detected by means of appropriate tests. Rosenow[22] has shown that the serum of immune animals has an increased proteolytic power with respect to pneumococcus proteins, and the results of his experiments indicate that recovery from pneumococcus infection is associated with the breaking up of cleavage products of pneumococci beyond toxic stage at which such products are toxic.

According to the work of Vaughan,[23] protein digestive products may cause many of the general symptoms present in pneumonia, including the fever. The intensification of the symptoms as crisis occurs, as well as the symptoms peculiar to the crisis itself, may perhaps be caused by the large quantity of protein poisons set free at this time and rapidly broken up into non-toxic products.[24]

We reach the important conclusion that the crisis coincides with the height of a wave-like increase of antipneumococcal substances in the blood. We find that such is the case as the result of various tests and measurements, of which most weight must be given to the demonstration of the protective and opsonic action of postcritical serum with respect to its homologous virulent pneumococcus.

An increase in antipneumococcal substances occurs also in cases in which recovery occurs by lysis, but in cases that proceed rapidly to a fatal ending no such increase in free antisubstances seems to be demonstrable.

SUMMARY

The cure of pneumonia results from the destruction of the pneumococci in the lungs and in the blood. This is accomplished by phagocytosis and also by extracellular digestive processes.

The predominating general defensive reactions in pneumonia are leukocytosis and the production of antibodies for pneumococci, of which the opsonins are best known; and these appear to be specific for the group to which the infecting pneumococcus belongs.

In rapidly fatal cases the defensive reactions are inadequate to destroy the pneumococci which persist and multiply in the lungs and in the blood, and free antibodies have not been demonstrated in the blood.

In favorable cases the pneumococci are destroyed more or less rapidly when the antipneumococcal reactions reach a certain height. We may assume that lysis results when the destruction takes place more gradually. Crisis is the effect of prompt destruction. In both cases, but demonstrated more clearly in crisis, there is an excess of free antibodies in the blood.

Memorial Institute for Infectious Diseases, 1743 West Harrison Street.

THE TREATMENT OF THE PNEUMONIAS *

ROBERT N. WILLSON, M.D.
PHILADELPHIA

In a study of the treatment of pneumonia it will be well at the outset to remind ourselves of the meaning of the term. Not all writers and not all clinicians mean by pneumonia merely the blood infection which localizes its lesions in the lung in the form of lobar or fibrinous pneumonia. A few remember the fact that there are many types of infection other than that of the pneumococcus capable of producing the picture of lobar pneumonia. Still fewer recall the ever-increasing frequency of what we may term, for sake of accuracy of description, bronchocatarrhal pneumonia. The very few who do indeed make these discriminations avoid speaking of the "treatment of pneumonia," and are never found including under the one term conditions as different as darkness from light.

PNEUMONIA IN THE MEDICAL WARDS OF THE PHILADELPHIA GENERAL HOSPITAL, 1911-1913

Total number of cases*	596
Total number of recoveries	232
Total number of deaths	364
Total percentage of recoveries (varying from 0 to 53 per cent.) on the various medical services (representing the various methods of treatment)	38.5
Total percentage of deaths (varying from 100 to 47 per cent.)	61.5
Number of cases which ran a low, irregular febrile course (not over 100 F.; often subnormal or normal throughout), with rapid pulse	393
Number of cases typically and constantly febrile (above 100 F.), and frankly suggestive of croupous pneumonia	203

* This total does not include the pneumonia cases in the Children's Hospital or those in the surgical wards, nor does it deal with cases of so-called hypostatic pneumonia. Practically every case in the series was treated in cold fresh air, very many of the patients having been placed outdoors on the bridges constructed for the purpose. Perhaps the majority of the cases occurred in alcoholic subjects; not a few were in the course of acute alcoholism.

Without dwelling on the fact that either fibrinous or bronchocatarrhal pneumonia may be caused by any one or more than one (a mixed infection) of the common infecting organisms, I wish simply to point to the need of determining very early just which form of involvement the physician has in hand. The chart of temperature, pulse, and respiration usually goes far toward making the differentiation. The history of the case, especially the former state of vigor and health, will just as frequently furnish the needed suggestion. As a rule, the physical examination, not of the lungs, but of the whole patient, will make the diagnosis certain; and, as the outcome of the case may easily be dependent on just this certainty, it behooves us to lay hold on it and avoid having to face the correct diagnosis at the necropsy-table, or a little later still, when the lung tissue is placed under the microscope.

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[21] Dick: Jour. Infect. Dis., 1912, x, 383.

[22] Rosenow: Jour. Infect. Dis., 1912, xi, 94.

[23] Vaughan: Protein Split Products in Relation to Immunity and Disease, 1913.

[24] At this point it is of interest to note the explanation of crisis advanced by Frank (De Curandi Hominum Morbis, Epitome, etc., 1810), one hundred years ago: "If the matter of the disease be expelled by some one convenient outlet, in the skin, kidneys, pulse or blood-vessels, the crisis is simple; if by several of these at the same time it is compound; if the whole be carried off at once it is perfect. If it be carried off at different times it is a lysis, or resolution."

* Read before the Philadelphia County Medical Society, Nov. 12, 1913.

In the first place, by lobar or fibrinous *pneumonia* I think that we all mean the clinical picture that opens suddenly, often in a vigorous, healthy person (though many times in a tired, overfed one), with a chill, vomiting, an aching back and a high temperature. The pathologic stages customarily run are congestion, red hepatization, gray hepatization and finally resolution, or some catastrophe. The clinical picture comprises a high constant temperature, a full, fairly slow hypertension pulse, an overworking but strong heart, a progression from the signs of congestion to those of consolidation of one or more lobes of the lung, rusty sputum and a febrile course of from seven to nine days, terminated by crisis, with recovery in approximately 75 per cent. of instances.

Over against this picture there is another equally clean-cut and striking — that of bronchocatarrhal pneumonia. The patient is usually an asthenic person before and after the onset of the infection. With few exceptions, perhaps none, he or she has a definite bronchitis at the time of, and probably directly causative of, the onset. Certain diseases, always characterized by a bronchitis, present a definite tendency to complication by bronchocatarrhal pulmonary involvement. Among these are measles, whooping-cough, small-pox, influenza, typhoid fever and gout, or the irritation of the bronchial tree due to food poisoning which masquerades under that name. It is my belief that more "colds" and bronchocatarrhal pneumonias are to be traced to a gastro-intestinal origin and possibly to a colon bacillus infection than to any other one cause.

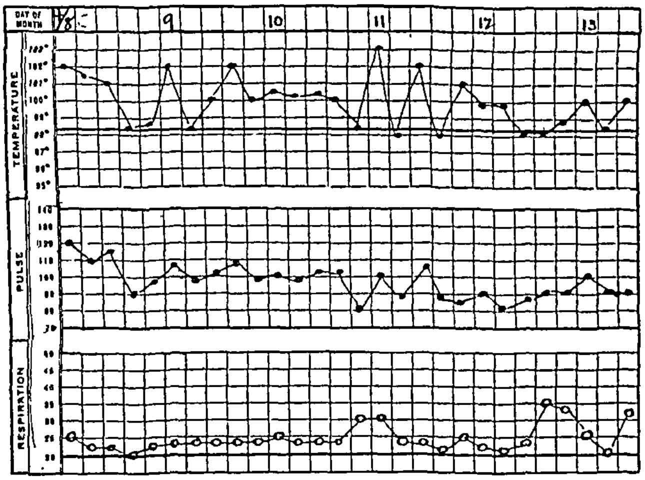

Chart 1.—Ordinary instance and customary appearance of chart in bronchocatarrhal pneumonia.

The pathologic picture is invariably one of bronchitis, terminal bronchiolitis, pneumonitis by *extension from* the bronchioles, and frequently a tendency for the adjacent foci of consolidation to run together and to involve considerable areas of lung tissue. It would seem as though all that were necessary for the development of the picture were an asthenic person, a bronchitis, and a lung the inherent vitality of whose tissues (along with all the other tissues in the body) is lowered beyond the point of successful resistance to infection and inflammation.

The clinical course is one of low, irregular temperature (sometimes subnormal throughout), usually a weak, rapid, running pulse, a respiratory rate not far above the normal line, often bloody (even rusty) sputum, a course lasting from two days to many weeks, and termination by crisis in many brief cases, but far more frequently by lysis in the customary long-drawn-out type. If the case reaches the necropsy-table it may or may not present a lung solid throughout from the coalescence of many small areas of peribronchiolar consolidation.

With equal or even greater frequency we note in the low-grade pneumonias the involvement of favorite seats of predilection. Such are the middle lobe on the right side, especially near the anterior axillary line, the areas beneath the inner angle of one or other scapula, and less frequently the one or the other pulmonary base or apex. In children usually the apex is chosen, and in them very frequently the exudate is in the main epithelial, is free from fibrin, and indicates the bronchocatarrhal type of infection.

In the foregoing contrast there are at once evident two main considerations: First, the need to remember that in the lobar or fibrinous type of pneumonia we are dealing, at least in the beginning, with a formerly, and often still, vigorous patient; while in pneumonitis of the bronchocatarrhal type we invariably encounter an asthenic, deeply toxic state in which the conservation of the vital forces is the main objective, and in which in infancy, adult years or old age, the patient will die unless these are jealously conserved. In many, if not in most respects, the treatment of the two conditions is the same. In certain essential points, however, the methods of handling must be as divergent as two opposite-traveling roads. It is because of this fact that I am emphasizing the existence of the two distinct types of pneumonia, and directing attention to the life-saving character of certain measures in the one, and their death-dealing influence in the other.

FRESH AIR

In both forms of pneumonia an abundance of fresh air is an essential. In health, the main function of the air-vesicles, which, if spread out, would cover many square feet of flat surface, is to supply oxygen to the red corpuscles of the circulating blood. For this purpose every vesicle must or should receive its full quota of pure, fresh air. The destination of the oxygen is primarily the heart; thence to the body-tissues from the crown to the toe. We have no cardiac tonic or stimulant that compares in efficiency with oxygen. In clean fresh air it is supplied in Nature's chosen proportions and in her own way. An ample supply is even more essential to the pneumonia patient, very many of whose air-vesicles are full of blood or of exudate, and out of commission as oxygen collectors and distributors. In addition, the blood is often incapable of carrying its wonted supply. The body and especially the heart need, as never before, the nourishing and stimulating influence of the oxygen from fresh air. The lungs are able to supply only a portion of the usual amount, often only a very small portion. It becomes, therefore, more and more important that all of the supply shall be pure, and unmixed with harmful ingredients. Hence the adoption of the treatment in the fresh air.

If possible, the patient should be placed bodily outdoors, *provided, and only provided, that the case is of a febrile type of fibrinous pneumonia.* I think it safe to say that exceedingly few, if any, instances are to be found of genuine fibrinous pneumonia in which the temperature curve averages as low as 100 F. I have not observed one. It will be safe, therefore, in fibrinous pneumonia to give free rein to the use of the fresh-air treatment, cold when possible, warm when there is no other supply. Such a patient literally cannot "take cold." He can, however, be made uncomfortable in extreme weather, and should be protected by a mackintosh placed over the mattress, and by bedclothes which surround the body, and do not simply lie on it. At the foot of the bed the blankets and bed-linen should be folded up under the feet and legs, forming a kind of sleeping-bag. Hot-water bags or bricks should be applied to the feet, if these precautions fail to make them comfortable. Only the nose and mouth need to be exposed to the cold fresh air in order to insure as ample as possible a supply to the embarrassed and hungry air-vesicles and to the red corpuscles waiting for their oxygen-supply.

The patient with bronchocatarrhal pneumonitis needs the fresh air and the oxygen as seriously as does he with the fibrinous inflammation and exudate. If supplied in the form of cold air, however, to a body whose poverty in heat and vital energy is already so low that it cannot show a temperature reaction to the influence of the toxin, the result will be the opposite of that desired, and death may be the result. I do not refer only to children and to the senile, but to the patient of any age. I have, indeed, seen an old woman hurried to her end by the misguided enthusiasm of an intern, who had recently read an article of the type just now in vogue, recommending the "cold-fresh-air treatment for pneumonia," and neglecting to discriminate between the types of infection and of involvement of the lung.

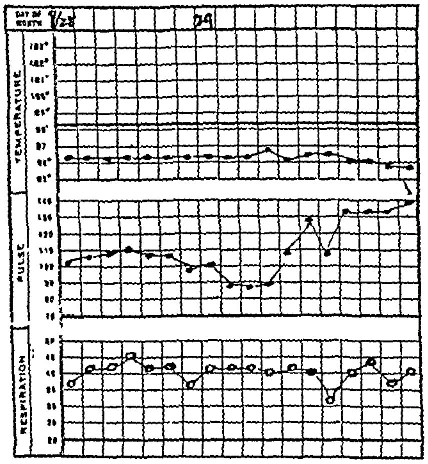

Chart 2.—Fatal case of bronchopneumonia. Base of right lung involved. Marked tubular breath-sounds, large moist râles. Chill, cough, herpes, septic tongue, severe dyspnea.

It would be comparatively safe to entrust the decision between the application of cold and warm fresh air to the patient, who, in his or her choice, would practically make the diagnosis of the nature of the pneumonia. Suffice it to say that he who treats the average case of bronchocatarrhal pneumonia by the application of cold fresh air will of necessity in so doing elect to shoulder the responsibility for many an unnecessary death and for elevating the mortality of a disease whose lethal influence reaches a sufficiently high mark without assistance in that direction from the physician and nurse.

The reason is not far to seek. Examine on the necropsy-table the mucous membranes of the air-passages in a fatal case of the so-called low-grade pneumonia. From the mouth to the finest bronchioles the surface is deeply congested and inflamed and purplish or reddish-blue. Passing a current of cold air over such a surface during and in each inspiration is like refrigerating the heart's blood immediately before its supply. In addition, it actually gives pain. The application of cold air to the body of the devitalized patient who cannot be kept warm is an influence that will most certainly in many instances send him or her over the boundary between life and death that might not have been crossed, under other circumstances, until a much later day. Especially in instances of gouty bronchitis and gouty pneumonia I have studied a number of patients who seemed to retrograde with the windows open, and breathed with ease and ceased coughing the moment they were closed.

In a suitable, febrile, sthenic case of fibrinous pneumonia the respiration becomes easier, the heart-action less labored, sleep comes with less effort, and food is taken with some relish when the patient is moved even from the well-aired room to the outdoor air. Both the cerebral symptoms (delirium) and the occasional distressing intestinal paresis seem less likely to occur and more easily controlled under the outdoor regimen.

Try the same method on the asthenic patient with bronchocatarrhal pneumonia, and the pallor and cyanosis will increase instead of diminishing, the cough and expectoration will be aggravated, and the heart, which is already carrying more than it can tolerate in the way of a load, receives a new burden and the heaviest of all in the way of an added embarrassment from stasis in the lung.

When we speak of the fresh-air treatment of pneumonia, therefore, let us take pains to mention the fact to those who are eager to learn that fresh air can be furnished either cold or warm, and that, in possibly the majority of instances (bronchocatarrhal pneumonia being the more frequent type), the application of cold fresh air will certainly do harm.

FOOD

Over and above oxygen in the form of fresh air, the regulation of the food-supply forms an important item in the treatment of both types of pneumonia. In the fibrinous inflammation, with its short duration, probably the entire seven or nine days might be experienced by a well-nourished patient with no food intake whatsoever, and the outcome of the disease be more surely favorable as a consequence. There are few persons who have the moral courage to map out such a regimen. For the comfort of the family, if for nothing else, in private practice food must be administered. It becomes an object, however, to use as little as possible of the most nourishing and easily digestible form of food, at as *infrequent intervals as the exigencies of the case permit.* Milk forms the ideal diet, so long as tympanites remains absent. This one staple may be supplemented or replaced by simple soft foods such as junket, custard, one-minute boiled eggs and soft milk-toast. Occasionally a pneumonia patient is hungry throughout the course of the disease. Such a patient should be fed more liberally, though with judgment, until the convalescence calls for an ample supply of food.

In the bronchocatarrhal pneumonias the patient requires from the first a supporting diet, though not a grain over and above that which is actually needed for the body requirements, nor more than can be thoroughly digested by a poisoned gastro-intestinal mechanism in a deeply toxic economy. The course is likely to be a longer one than in true fibrinous pneumonia, and provision must accordingly be made for a sustained resistance to a long insidious attack. It has been my custom in the last few years to feed a patient with bronchocatarrhal pneumonia along lines very similar to the ones employed in typhoid fever. I do not favor restriction to a milk or liquid dietary. On the contrary, I have found it helpful to prescribe approximately 2 quarts of milk in the twenty-four hours, and in addition, three times during the day, a one-minute boiled egg and some agreeable addition, such as custard, finely chopped meat, mashed potatoes, lettuce, dry toast, or a little of any simple vegetable desired. This regimen cannot safely be followed unless the rules yet to be detailed for the housekeeping of the intestinal canal are rigidly observed. With proper care, however, one will witness many a patient who enters on this disease thin and haggard and worn, emerging from it in a far better state of nourishment, and ready to enter on a real and soon a complete convalescence.

WATER

Another essential in the treatment of the pneumonias is an adequate supply of drinking-water. If sufficient is ingested from the beginning of the illness there will rarely appear the so-called toxic or typhoid state in which the tongue is dry and even fissured, the skin parched, and the patient perhaps delirious or comatose. Not less than 3 pints should be taken by the average adult patient during the twenty-four hours, and the prescription for this amount (6 glasses), or better 2 quarts (8 glasses), should be placed in black and white on the treatment-sheet. This measure is as important as is the flooding of the patient with fresh air, and will assist in attaining the same ends.

THE GASTRO-INTESTINAL TRACT

I know of no measure more certain to aid in the furnishing of a favorable prognosis in both types of pneumonia than a thorough initial intestinal sweeping by means of castor oil, and the repetition of this procedure every second day throughout the course of the disease. Under this regimen, provided a sufficient supply of clean fresh air of the proper temperature be afforded, the vast majority of patients will require no other drug treatment from start to finish. No other laxative will do the work accomplished by castor oil. I know of none that can be used with so little fear of harm. It can be given in flavored powder form (rubbed up with heavy magnesia) suspended in milk; or if necessary can be passed directly into the stomach through a fine nasal tube, the outside of which has been touched with a weakly mentholated oil. Some patients take with ease the necessary dozen flexible capsules.

I have become more and more thoroughly convinced that the great number of bronchitides find their origin in toxemias arising from the intestinal tract. Too much food, articles of food ill suited to the individual, and retention of decomposition and fermentation products in the intestinal tube from whatever source, are the causes of many "colds" and inflammations of the respiratory passages which are attributed, as a rule, to drafts, outdoor exposure, and to every other cause except the real one. Unless the process has gone too far, the symptoms begin to subside when the gastro-intestinal tract is swept and kept clean, and the offending substances (perhaps only a particle in some kink or coil of the bowel) have been removed, and when the stock and store of toxin already accumulated in the body have been lowered below the symptom-producing line. This may not be accomplished by the first purgation. Very often, however, the influence on the patient is little short of wonderful, and the whole course of the disease a different one thereafter. It is remarkable how reluctant many physicians and many laymen appear to be to empty the bowel from end to end as the initial procedure in the treatment.

Especially difficult does this lesson appear for the hospital intern. "The bowels have already moved," we are told by the doctor and layman alike, when all that has been "moved" has been the lowest rectal 6 or 8 inches, or at most the sigmoid flexure, of the intestinal tube. Other laxatives than castor oil may be used, and any one is better than none. It is well, however, to avoid those that tend to irritate kidneys that are already suffering from the same bacteriemia and toxemia that has affected the lung. Mercurials fall within this class, even calomel furnishing more of risk than of gain. Phenolphthalein has within the recent past been shown to produce albuminuria even in healthy persons. Probably magnesium citrate, next to castor oil, offers the most satisfactory means of emptying the intestinal canal with the least likelihood of damage to other structures during its elimination.

Occasionally in the middle of a pneumonia of either type, especially in the course of a surgical (ether or shock) bronchocatarrhal process, the stomach will appear paretic, and balloon with gas. At such times lavage through the stomach-tube will, as a rule, give immediate relief from both the distention and the attendant vomiting. More frequently tympanites forms a constant feature of a deeply toxic case. In such patients the high rectal tube, high asafetida enemas or suppositories, or turpentine and soapsuds enemas, will form a few of the measures that may be instituted for the relief of meteorism. Hot water or turpentine stupes may also be applied to the abdomen and will often prove more effective than the internal procedures.

Peritonitis occasionally projects itself into the midst of a pneumonic picture. It is always a serious complication and may call for surgical interference.

Far more frequently there is present the picture of an appendicitis, or of a peritonitis localized elsewhere than over the appendix, which promptly disappears with the improvement in the local pulmonary and pleural condition. Even a left-sided apical pneumonia may cause rigidity and pain in the right iliac fossa. As a consequence, it will behoove the physician and surgeon to go very slowly in the use of surgical measures. I well remember two cases, the first of a medical student, carefully studied by well-known consultants who clearly recognized the presence of both pulmonary and abdominal signs. They decided against abdominal surgery, and the patient died of suppurative peritonitis. A second case I saw with Dr. M. G. Warmuth, and decided that there was reason to operate, though a right basal pneumonia was plain. Yet the abdomen was found free from trouble, and the patient had his crisis and began his convalescence the day following the operation.

MECHANICAL AND LOCAL MEASURES

Among the non-medicinal measures valuable in the treatment of the pneumonias, as well as of all toxic states, one of the most important is the care of the skin. As far as possible this should be left free to perform its functions of elimination and respiration. It should not be hampered by ointments, by poultices or by unnecessary coverings of any kind. Yet quite recently, in consultation with a fellow practitioner who had just taken charge of the case, I saw a little child, whose family would not permit the removal of a jacket of antiphlogistin which had nearly cost the baby its life. It had been in place for twenty-eight days, since first put on the surface of the chest by the physician then in charge. The child was apparently dead, poisoned by methyl salicylate and the gases of its own skin. The removal of the death-jacket, and immersion alternately in hot and cold water, caused the first deep inspiration witnessed in many hours. It is not the fault of the antiphlogistin fallacy that the baby is strong and well to-day. The skin should be kept clean. Good nursing will insure the sponging of the body surface with hot water morning and evening, and the daily changing of the clothing worn next the skin. In febrile fibrinous pneumonia sponging at regular intervals for high temperature will often be found restful and gratifying to the patient. The temperature of the water may be high or low (hot or cold) according to the preference of the patient. The same result is accomplished by either and both as far as the lowering of bodily temperature is concerned. The hot sponge, however, is far more restful and stimulating to the heart, and may be used for its cardiac tonic influence. In bronchocatarrhal pneumonias there will be no need of sponging to reduce the temperature. Apart from cleanliness, only with a view to vitalizing the cardiac and nervous functions will the procedure be advisable or salutary. Stupes applied to the chest for brief periods (fifteen minutes or thereabouts) at regular intervals furnish an important method of applying counterirritation. In the form either of turpentine or of hot-water applications, they often relieve pain and lessen the tendency to further congestion. Especially when there is an area of pleurisy over an inflamed lung, the stupe fills a most beneficent rôle. It should not, however, be allowed to remain in place for long at a time, or to fill the rôle of a poultice and thus accomplish harm rather than advantage. A favorite method of mine is to dry cup the chest generously over the involved portions of the lung, and then to apply over the entire chest hot stupes prepared by sprinkling turpentine directly on the steaming moist flannel. The stupe is removed in fifteen minutes, the skin wiped clean, perhaps moistened with a minimal quantity of petrolatum or oil of theobroma (cocoa-butter), and covered only by the light undergarment and night-clothing until the next stupe interval.

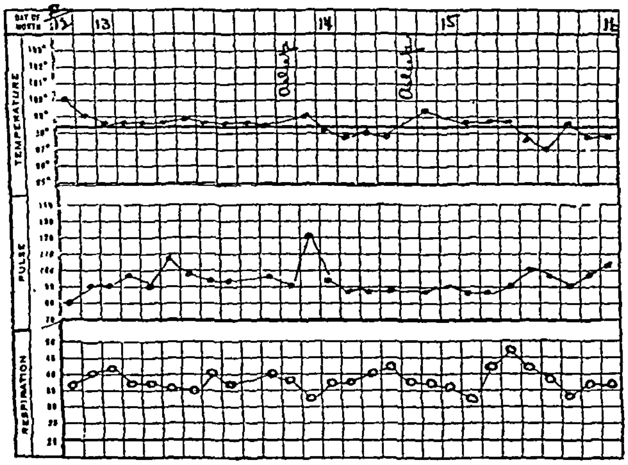

Chart 3.—Five days from the gravest stage of a fatal case of bronchocatarrhal pneumonia. Cough, dyspnea, septic tongue. Râles, tubular breath-sounds over the right lower lobe posteriorly.

I have already mentioned dry cupping, either used alone or in combination with the stupes, or, in fibrinous pneumonia, with an ice-bag. Its influence extends through many layers of chest, pleura and lung, and is one of the measures employed by our fathers which we cannot afford to lose. It is not a pleasant procedure for the patient, and hence should not be overdone. One thorough dry cupping daily will furnish all the benefit that can be obtained. More constitutes an abuse of the measure, and is one of the many forms of harmful overtreatment.

Bleeding in vigorous hypertension-cases of fibrinous pneumonia has been more in vogue than it is to-day. It is of questionable value, except when the patient is cyanotic and laboring with a dilated, distended right heart, and congestion of all the organs. Used promptly at such a time, venesection may save life, or at least remove the cause of immediate distress. No definite quantity of blood can be fixed for the termination of the bleeding. The finger should be on the pulse and the physician's eye on the patient. As soon as respiratory and cardiac relief has been afforded, the cyanosis set aside, and the patient evidently enjoying a freedom from air-hunger, the procedure should be ended, whether a pint, a quart or double the amount has been abstracted. To bleed an asthenic, bronchopneumonic patient during any stage of the disease will amount practically to robbing him of that of which he stands most in need. Venesection cannot help, and may kill him.

Hot foot-baths of mustard- or turpentine-water are often of real advantage, by way of distributing the circulation of the body, and relieving the congestion of certain areas and organs. They can be used under the bedclothing in an ordinary bed by bending the knees of the patient, and, if a modern hospital bed is used, by lowering the footpiece of the bed.

Hypodermoclysis is mentioned, only to be condemned. In all types of pneumonia the heart and the vasomotor system suffer the main burden of the attack. Under such circumstances we should spare the cardiac muscle the additional burdens of a new drug-excitant and of a new overquantity of fluid in the circulation. Occasionally in an extremely low-tension case of bronchocatarrhal pneumonia a high enteroclysis with hot sodium bicarbonate solution will furnish the much-needed warmth to the body, and if administered slowly, will be absorbed, and aid in flushing out the irritating and toxic solids from the kidneys.

I have barely mentioned the use of the ice-bag, first because I am not sure that it is ever grateful to the patient, and secondly because I feel still less assured as to its value. When cerebral symptoms are present, as of headache or delirium, an ice-cap to the head may be of service. Applied to the chest, however, I can only be sure that in fibrinous pneumonia its beneficial effect on the lung is every day coming more in question; while in the low-grade bronchocatarrhal pneumonias its very principle is as contrary to the good of the patient as is the application of cold in any form.

Occasionally in a sthenic case an irritable, overworking heart can be quieted successfully by the application of an ice-bag to the precordium, now and again over a blister.

There remains to be mentioned the evacuation of a serous or purulent pleural effusion appearing as a complication of pneumonia. Serous collections should be removed as soon as recognized, by means of the needle if the physical examination leaves the question in doubt. The puncture of the lung-tissue, provided no fluid be present, never seems to result in harm, the actual beginning of resolution frequently seeming to date from the occurrence.

Loculated or free empyemas require unobstructed drainage and call for the interference of a surgeon, under local or spinal anesthesia. Far less frequent are pericardial effusions in pneumonia. These should be treated as independent conditions, and evacuated promptly in order to enable the heart to carry its load.

NECESSITY OF CAUTION

In the use of any or all the foregoing measures one thought should stand out over and above every other in the physician's consciousness. The treatment should not be allowed to interfere with the patient's welfare or likelihood of recovery. Every measure, even the administration of food, which interferes with the patient's rest of mind and body, especially with sleep, should be interdicted as certain to yield harm. I shall never forget the look and the tone of one rare and loyal patient who, when dying from a pneumonia which had doomed her from the start, said to me, "You don't give me a moment's rest!" I learned my lesson that day, in spite of the fact that I thought her stricture oversevere; and I have never since offended on the side of overtreatment.

There should be a regular interval (not less than three hours) of rest before every new succession of treatment. The latter should be administered and completed, and again should follow the period of undisturbed rest. We can also well afford to spare the patient our own and the nurse's active interference during the night hours, except in a grave emergency. If treatment is conducted along these lines, and if these simple principles are followed, recovery should result in the vast number of pneumonias of both types, when occurring in otherwise healthy persons.

DRUG TREATMENT

As in cardiac disease, so in the pneumonias many patients would be better without than with extensive drug treatment. After the initial intestinal house-cleaning not a grain or a drop should be administered without a definite indication for so doing. Every other day the intestines must be put in order, as already outlined. If this precaution is taken, few indeed will be the cases that require any other medication from beginning to end of the disease. Danger will threaten, not so much from mechanical embarrassment of the lungs as from cardiac muscle and gangliar poisoning, from vasomotor paralysis, and *from toxemic crippling* of the nervous centers. In alcoholics the heart and nervous centers are special objects of solicitude.

I have found atropin, the most useful of a very few available drugs, both as a cardiac tonic and as a respiratory stimulant. In small doses, used hypodermically, less often by the mouth, it will steady the heart and often quiet the labored respirations.

Morphin in occasional small doses, given hypodermically, will not only quiet the cough and further sleep, but will also allay restlessness and serve as an effective cardiac sedative and tonic.

Aconite, beyond question, will quiet the overacting heart of a fibrinous pneumonia. In bronchocatarrhal pneumonia, however, it is not a safe drug to use. The already toxic heart will not suffer the application of such a powerful and treacherous cardiac depressant.

Veratrum viride serves much the same purpose, is far safer, and was a favorite drug with our fathers in medicine. They used it with a view to redistributing the circulation, especially by emptying the congested lungs and filling the abdominal vessels. Pilocarpin may be used in the presence of a strong heart to produce free sweating, and skin elimination. Strychnin, digitalis, strophanthus, and spartein, camphor, ammonia, and the calcium salts are all cardiac stimulants that may be employed when the heart begins to fly signals of distress. Too much should not be expected of any one.

Antitoxins and vaccines which promise anything in the way of real success in preventing or curing the disease have not yet been secured, probably for the reason that most pneumonias are mixed infections, and in most instances more strains than one of the main infecting organism are busily at work.

Quinin, now given in massive doses by the mouth and rectum in the form of quinin bisulphate, or hypodermically, as quinin and urea hydrochlorid, has seemed to bring miraculous results in certain hands and in certain localities. The drug has produced absolutely no effect in other sections and in other series of cases.

Expectorants seem calculated only to disorder the digestive tract; pulmonary antiseptics accomplish very much the same end. Certainly no harmless drugs known to medicine can be aimed at the disinfection of the tissues of the lung with any reasonable certainty of reaching their destination, except by local application. Creosote, creosotal, hexamethylenamin, formaldehyd inhalations, have all been suggested and employed, and have accomplished no evident benefit for the patient.

Alcohol is no longer considered a cardiac tonic, and has well-nigh lost its right to a place in a sane pharmacopeia. Just as pneumonia in the alcoholic (nearly always of the bronchocatarrhal type) is in the great majority of instances a fatal process, so the use of alcohol in the treatment of pneumonic toxemia constitutes a paradox of effort that is difficult to understand on any other ground than one of ignorance. Alcohol is a cardiac muscle poison and a vasomotor paralyzant. Both of *these forces we wish to preserve, not destroy.* Therefore, after many hundreds of years filled with object demonstrations so plain that they stare us in the face, we are reluctantly beginning to cease teaching our patients well-nigh incurable drug-habits under the guise of beneficial treatment.

THE CRISIS

This interesting and very little understood phenomenon and period are full of danger as well as promise for the patient. Radical changes take place suddenly in both the tissues and in the functions of the body, and the resulting shock to the vital centers is severe. The sudden fall of temperature, the tremendous expenditure of nervous and chemical energy entailed in the final overthrow of the toxemia, the almost instantaneous relaxation of the tired heart, all must be met by artificial warmth, by absolute rest and sometimes even by the use of cardiac stimulants, especially by atropin. The external application of heat (hot blankets, hot-water bottles, etc.), hot water or lemonade given internally, and the cessation of all active treatment for the moment, will enable the patient, as a rule, to pass through this narrow channel into the harbor of final safety.

AFTER-TREATMENT — CONVALESCENCE

The convalescence is by no means an easy road following a severe pneumonia, especially of the bronchocatarrhal type. Every tissue has been poisoned in the toxemia, and the heart and kidneys bear the stress of the storm. Ample time is required for a genuine rebuilding of energy and vitality; and in no other condition is it so true that "haste makes waste" as in the convalescence following a toxemia of the pneumonic type. There is another danger that decreases as the days pass, but is very real during the first active movements of self-locomotion. I have known three formerly strong, vigorous men, in their convalescence from a pneumonia, rise from their chairs to greet relatives and fall over dead from a pulmonary embolus. This possibility calls still more urgently for care in the matter of too early exertion. As many patients are denied a full return to power and health by a too early resumption of the strenuous life as by the exigencies of the acute illness. The daily routine should be resumed step by step only, and organs like the heart and liver and kidneys should for many a day be regarded as objects of care and concern.

DELAYED RESOLUTION

Occasionally the resolution of the consolidated lung comes to a standstill for reasons that are difficult if not impossible of explanation. In such a case, counter-irritation in the form of blisters, dry cupping or iodin applications may be tried. In more than one instance I have seen unresolved consolidation mistaken for a pleural effusion, and resolution follow promptly on the puncture of the lung by the needle. There is little doubt in my mind that this method may be used to advantage for stimulating sluggishly healing lung processes. More important is the general hygienic upbuilding of the patient, which will go far toward recommencing and completing the work begun at the time of the crisis.

CONCLUSION

In glancing back over this outline of the treatment of the pneumonias, it gives some satisfaction to recall the fact that the vast majority of strong, previously healthy persons with the pneumonias ought to recover, as many do, with little or no treatment, except good nursing and scrupulous intestinal care. One might almost say that few, if any, otherwise healthy children should die from either type of the disease. There is no question as to the fact that many pneumonia patients are hurried, if not helped, into the grave by overtreatment.

"Purging, diet and bathing" were the watchwords of Asklepiades, and of a long succession of the ancients. Add both cold and warm clean air to this triad and we shall have before us the outline of the most successful modern treatment of one of the most treacherous and dread forms of systemic and pulmonary disease.

1827 Spruce Street.

Minimum Wage Law and Women.—An industry which does not pay its employees enough to cover their necessary cost of living is a parasite on the homes of the poor and is subsidized by its employees. If any industry is so important to the community as to deserve to be sustained by a subsidy, such a subsidy should come from some other source than its working girls. The principle on which the act is based is that the welfare of women must take precedence over any commercial consideration. The mothers of the future generation should not be sacrificed to industrial gain.—Father O'Hara, Chairman Oregon Industrial Welfare Commission, in *Survey*.

THE DIFFERENTIAL DIAGNOSIS OF CHOLELITHIASIS FROM GASTRIC AND DUODENAL ULCER

WILLIAM J. MALLORY, M.D.
Instructor in Medicine in the George Washington University, Department of Medicine, and Attending Physician to the Outpatient Department of the University Hospital
WASHINGTON, D. C.

The statement so frequently made that gall-stones, in a large percentage of cases, produce no symptoms, is misleading and requires some qualification. It is true that they are often found during operation or post mortem when their presence has not been suspected, but in most cases symptoms were present, and were attributed to disease of some organ other than the gall-bladder, usually the stomach or duodenum and sometimes the appendix.

Recognition of this fact has induced some authors to group cases in two classes: (1) those giving direct symptoms, unmistakably indicating gall-bladder disease; (2) the group presenting indirect symptoms referred to other organs. It is to the group presenting symptoms of uncertain meaning that attention is invited, because it is in this class that difficulty is especially apt to be encountered in establishing a correct diagnosis.

A brief reference to the embryology and physiology of the organs involved may explain the causation of some symptoms, and thus lead to a more accurate interpretation of their meaning. It will be recalled that the liver develops as a pair of hollow outgrowths from the upper part of the duodenum. At a certain stage in this development the right and left hepatic ducts open separately into the duodenum; but later the duodenum becomes pouched where they enter, and this pouch is drawn out to form the common bile-duct, from which the gall-bladder and cystic duct arise as a hollow evagination. These structures are innervated by the same nerve that supplies motor and secretory fibers to the stomach; that is, the vagus. In addition, they are intimately connected with the same sympathetic ganglia, and receive terminal fibers from the same spinal nerves, namely, the four lower dorsal and the two upper lumbar nerves.

In addition to purely reflex disturbances, dependent on the above-mentioned anatomic relations, pathologic changes often involve the stomach, duodenum or colon through the formation of adhesions, which cause traction, dislocation or obstruction, and produce symptoms of organic disease in these organs. It is easy to see that in these relations there exists a mechanism capable of producing almost every variety and degree of disturbance in the motor, secretory and sensory functions of the stomach. It must also be remembered that either functional or organic disease of the stomach may coexist with gall-bladder disease without a causal relation of the one to the other.

The physiologic relation existing between the stomach and gall-bladder is another cause of confusion in the interpretation of symptoms. For example, it is frequently stated that the onset of an attack of biliary colic bears no relation to the ingestion of food. This is true in some cases, because there are other conditions which may induce contractions of the gall-bladder, such as severe exercise; but eating will also do this, for the reason that contractions of the gall-bladder are normally produced by the passage of the duodenal contents—especially fat and peptone—over the papilla of Vater. Evacuation, therefore, occurs during the later stages of gastric digestion. If, at this time, a stone or bit of tenacious mucus engages in the orifice of the cystic duct and occludes it, what would have been a painless evacuation becomes a biliary colic.

The diseases mentioned as most frequently simulating biliary colic are gastric or duodenal ulcer, appendicitis, right-sided kidney lesions, such as nephrolithiasis and Dietl's crises. Rarer conditions, which should not be forgotten, are right-sided pleuritis, the gastric crises of locomotor ataxia, lead colic and aneurysm of the hepatic artery. Kidney lesions may be recognized or excluded by examination of the urine, ureteral catheterization and roentgenographic examination. The correct diagnosis of gastric and duodenal ulcer is especially important from the fact that gastric symptoms commonly occur in biliary disease, while an attack of biliary colic is not always characteristic. Instead of a sudden onset with sharp pain in the right hypochondrium, radiating to the back and shoulder, which may occur at night, and have no relation to eating, it often begins, during digestion, with moderate pain in the epigastrium, which gradually increases in severity until vomiting occurs, sometimes with consequent relief. If in such a case as this the stomach should be examined, hypochlorhydria is often found, or, more frequently, hyperchlorhydria; and in those cases in which the pain has not been severe enough to produce emesis, food remains are found in the stomach eight or more hours after eating.

Such findings are especially apt to attract the whole attention of the examiner to the stomach, and a wrong diagnosis may be made. There are, however, certain characteristics by which primary gastric disease and reflex disturbances may be distinguished. Although biliary colic may and sometimes does occur during the period of gastric digestion and is related to taking food, it will be noticed that the most harmless food sometimes induces an attack of maximum severity, while occasionally the patient can eat the coarsest solid food without discomfort. Between attacks the health remains good. The duration of the pain does not correspond with that of gastric disease. It is often much shorter and sometimes terminates suddenly. In other cases it continues for several hours after the stomach is emptied, either normally or by lavage or emesis.

Local tenderness is of greater diagnostic significance than pain, but even this is of uncertain value, because it is also present in nearly the same region in duodenal ulcer. The tenderness of ulcer is, however, usually more circumscribed than that of gall-bladder disease. Tenderness of the gall-bladder or liver is never absent when a calculus or inflammation is present. It is best elicited by pressing up under the margin of the ribs at the moment of deep inspiration, and is recognized as a diffuse deep-seated pain felt at the moment the edge of the liver touches the hand. The so-called dorsal tender point is present in both gastric ulcer and cystic disease, but with a certain difference. Boas describes increased tenderness to pressure on the right side 3 finger-breadths from the spine, extending from the twelfth thoracic to the first lumbar vertebra. This is present in the interval as well as during the attack and in the absence of tenderness over the gall-bladder. The dorsal tenderness of ulcer is very rarely limited to the right side, but is more common on the left side or both sides, and is more extensive up and down the spinal column.

Jaundice is of little value as a diagnostic sign, because it occurs in less than half the cases of cystic disease and occurs in other conditions simulating biliary colic, notably duodenal ulcer.

Fever, being due to infection, is absent in uncomplicated cholelithiasis. When present, it indicates inflammation of considerable degree and duration, because the lymphatic supply of the gall-bladder is poor and absorption of toxins is slow. In the first few attacks the absence of fever is therefore of little significance, its presence indicating cystic disease rather than gastric or duodenal ulcer.

Examination of the feces will often produce evidence of value in differentiating cystic from gastric disease. Obstruction, if present, may be recognized, and occasionally in cases scarcely suspected a gall-stone may be found, which is of such importance that it is worth the trouble of a careful search. The presence or absence of occult blood must be interpreted with great care after due consideration of the symptoms and duration of the illness. In this connection it is to be remembered that ulcer and cystic disease may coexist. The severe vomiting of biliary colic sometimes produces hematemesis, and the passage of a stone as well as an ulcerating gall-bladder may cause the appearance of a minute amount of blood in the stool and lead to a false diagnosis of gastric ulcer. Briefly, the presence of occult blood does not help in the diagnosis, but its absence excludes active ulcer of the stomach or duodenum.

The following clinical reports serve to illustrate how closely cholelithiasis may simulate gastric and duodenal ulcer:

Case 1.—Miss A., aged 56, for two years prior to examination felt mental depression and sluggishness after meals, and three or four times a year had what was called "acute indigestion." The attacks began a variable length of time after eating, consisted of pain in the epigastrium radiating to the back, nausea and vomiting, and continued an hour or more, usually until some such hard food as bacon, slaw or curds had been ejected. Between the severe attacks she suffered after meals with distention of the stomach, eructations and nausea. The appetite became poor, and the attacks increased in frequency and severity.

When examined the patient was found to be healthy-looking, well nourished and free from fever and jaundice. There was moderate tenderness 1 inch to the right of the median line, 1 inch above the umbilicus and over the tenth rib posteriorly just to the right of the spinal column. An examination of the gastric contents after a test-breakfast showed a total acidity of 54, and a trace of occult blood.

While the patient was on a meat-free diet, the feces were repeatedly examined, and occult blood found on every occasion. During the period of observation she had a very severe attack of pain and vomiting half an hour after eating a cracker and drinking a glass of milk. On another occasion she ate milk toast and suffered a similar attack two hours later. Such attacks occurred repeatedly a variable time after eating soft food. Although blood was present in the gastric contents and stool and vomiting afforded relief, doubt was thrown on the diagnosis of gastric ulcer by the occurrence of sharp attacks of pain and vomiting a variable time after eating the mildest food. During the systematic examination of the feces, three gall-stones were found.

Case 2.—Mr. L., aged 27, was first examined June 14, 1911. He had undergone appendectomy in 1908, and was operated on for exophthalmic goiter about May 7, 1911. The patient, when seen, complained of severe pain in the epigastrium, radiating up under the ribs toward the back, which occurred about every second day, regularly two hours after the principal meal, and continued for two or three hours, unless relieved by hot applications.

Tenderness, 1 inch to the right of the median line, and 1 inch above the level of the umbilicus, was noted. A slight subacidity was found after a test-breakfast. The total acidity was 38. The bowels were constipated and the hard scybalous feces contained occult blood on every examination.

Under the treatment for duodenal ulcer, the attacks of pain decreased in frequency and severity and the patient gained weight. July 13, 1911, the patient had a mild attack of abdominal pain before breakfast. September 11, 1911, a severe attack of abdominal pain occurred, with tenderness over the region of the appendix and ascending colon. The temperature was 99 F. September 14, after consultation with the surgeon who originally referred the case for examination, the patient was taken to the hospital. Attacks of abdominal pain, muscular rigidity and slight elevation of temperature (99 to 100 F.), with moderate leukocytosis (9,000), recurred at intervals of a few days, but finally subsided and the patient left the hospital free from symptoms. Six months later, March 10, 1912, there was another severe attack of abdominal pain, without fever. April 9, 1912, an attack began at 6 a. m. and was followed by headache, chilliness, a pulse rate of 100 and a temperature of from 100 to 102. The leukocytes numbered 7,600. A slight jaundice developed for the first time April 14, 1912. On rest and cold applications the acute attack subsided.

April 18, 1912, at operation, the gall bladder, duodenum, pylorus and a part of the transverse colon were found embedded in a mass of dense adhesions. The gall bladder contained a number of stones, was ulcerated and very closely adherent to the transverse colon. Apparently it had once perforated into the colon and the opening subsequently became closed by the contraction of the adhesions. The patient has remained well until the present time, more than two years after operation.

In this case, the pain at regular intervals after eating, blood in the feces and tenderness in the right hypochondrium led to a wrong diagnosis of duodenal ulcer. This diagnosis was, of course, revised when it was observed that the pain occurred at irregular intervals and without relation to eating. One naturally asks, Were the gall-stones present three years previously when the appendix was removed?

CASE 3.—Mrs. R., aged 40, was first seen Jan. 24, 1913. Her mother died of cancer. About eleven years prior to examination she had a pelvic operation performed. The uterus was "suspended and a tumor and glands removed."

For seven or eight years she had occasional attacks of "acute indigestion." At first the attacks were rare, intervals of months or even years intervening during which she could eat anything without discomfort or pain. The attacks became much more frequent, especially in the month preceding examination, during which time she had three or four attacks. These occurred always four or more hours after eating, but never during the day. The pain was described as vise like in character, was located in the epigastrium, increased in severity until she was doubled up and was accompanied by a cold sweat. Food, whisky and even large doses of morphin sulphate failed to relieve the pain entirely, but it usually disappeared gradually by morning. Vomiting often occurred or was voluntarily induced with partial relief.

The patient was stout, well nourished and of good color. There was slight tenderness over the pyloric region. After a test breakfast, about 100 c.c. of nearly clear fluid was aspirated, which was free from any trace of occult blood, and contained no hydrochloric acid, either free or combined. The feces were also free from occult blood. After a test supper of raisins and rice there was epigastric pain which increased in severity, and continued until the physician was called eight hours later. The stomach was then irrigated and a large quantity of the supper removed. The pain continued until relieved by morphin. Gall-stones were suspected, but in order to exclude pyloric stenoses a roentgenogram was made, which showed a gall-stone impacted in the cystic duct. The stomach appeared to be free from deformity.

At operation the gall-stone was removed, and no lesion was found in the stomach, pylorus or duodenum.

1720 Connecticut Avenue, N. W.

CYSTS OF THE PROSTATIC URETHRA

A. J. UNDERHILL, M.D.
BALTIMORE

Because of the apparent rarity of the condition, the following cases are of interest:

CASE 1.—W. M. R., aged 36, unmarried, complained March 20, 1913, of "impotence." His family history was unimportant. He had had typhoid thirteen years before. The patient gave no history of syphilis, but he had had a number of attacks of gonorrhea, one of which was complicated by epididymitis of the left testicle. Seven years before he had been massaged for some weeks for prostatitis, since then he had had no urethral disturbance except dribbling after micturition and gluing of the lips of the meatus. His habits, sexual and otherwise, were good.

A few hours before consulting me he had attempted intercourse and failed utterly to induce an erection. He stated that he was in excellent health, but for some months past had been easily exhausted and had felt tired from his waist down. He had not attended to his work with his customary feeling of energy. He had not attempted coitus during the preceding two years, although before that time he had led an unusually active sexual life.

Examination showed the external genitalia to be well developed and normal. There was no urethral discharge and the urine (three glass test) was negative with the exception of a few shreds in the first glass. The whole surface of the prostatic urethra from the margin of the internal vesical sphincter to the beginning of the membranous urethra was found, on endoscopy, covered with cysts from 1 to 2 mm. in diameter, round or somewhat oval, with the long axis corresponding generally to that of the urethra. Two of them just external to the vesical orifice were larger, measured about 4 mm. in their long diameter, and lay transverse in the wall of the urethra. No normal mucous membrane was visible, even the colliculus being included in the cystic degeneration.

CASE 2.—An unmarried clerk, aged 26, complained May 21, 1913, of a gleet for which he had been under treatment by prostatic massage for eight months. He had had an attack of gonorrhea five years ago but gave no history of syphilis or other venereal diseases. When an examination was made a transparent mucoid discharge which microscopically consisted of mucous shreds, epithelium and a few pus cells but no gonococci, was expressed from the meatus. The urine (three glasses) was negative with the exception in the first glass of a few fine shreds made up of epithelium and pus cells.

The endoscopic examination showed practically the same condition in the prostatic urethra as in Case 1, except that the site of the lesion began within the margin of the internal vesical sphincter, which was smooth and normal in appearance and extended 1.5 cm. anterior to this point. The whole circumference of the urethra within this area was the seat of the change. The mucous membrane of the prostatic urethra was hyperemic, bled easily and in places was granular in appearance. The colliculus was apparently normal.

Both the cysts were sessile, white and looked in general like pearls sunk half way in the mucous membrane. They were insensitive to the touch of the probe or swab and did not bleed except when incised, the walls varied in thickness, those of the smaller cysts consisting of a thin membrane which collapsed completely when incised or torn, while the larger cysts were quite resistant to the endoscopic knife and did not collapse entirely when opened. The contents, which were withdrawn with a syringe after incision, appeared to consist of a clear fluid which, microscopically, contained no cellular elements or organisms. This examination, however, was unsatisfactory on account of the presence of red blood corpuscles as a result of the incision, which did not in itself cause enough bleeding to interfere materially with further procedures. No cultures could be taken at the time.

In the first case the condition of the margin of the sphincter was well shown. When the endoscope was pushed into the bladder and slowly withdrawn, in place of the smooth, rounded, bright red circumference of the sphincter internus which normally comes into view and closes on the extremity of the endoscopic tube like an iris diaphragm, a series of grayish-white excrescences was seen, irregular in size, each semicircular at first view, but losing this shape as they came together and were compressed by the contraction of the sphincter. As the tube was withdrawn through the prostatic urethra the cysts continued to come into the field of vision in one thick continuous cluster which was crowded together in a formless white mass as they disappeared in the apex of the funnel formed by the collapse of the walls of the urethra behind the end of the tube.

A cystoscopic examination showed a normal bladder in each case. The extension of the process to the margin of the internal sphincter in Case 1 was demonstrated by the corrugated line which the border of the orifice assumed across the lens of the cystoscope, each corrugation corresponding to a cyst, which indicated that the cysts extended around the circumference of the sphincter without invading the bladder. That this caused an imperfect closure of the internal sphincter in this instance was evidenced by the difficulty of keeping the field dry while the cysts were being treated through the endoscope. The end of the tube would be flooded with urine with a regularity suggesting the functioning of the ureters.

The treatment consisted of extreme dilatation with the Kollmann posterior dilator, and incision of the cyst walls. A few dilatations served to destroy the small thin-walled cysts except a few within the margin of the internal sphincter. These and the larger cysts with thick walls were treated by incision followed by cauterization with the solid silver nitrate stick. An immediate improvement followed. The first patient recovered completely. The second still has a mucoid discharge. The few neurasthenic symptoms he showed have improved.

Although but few of these cases have been reported in the literature, I believe that were the endoscope used more often conditions such as I have described would be found more frequently. Solitary cysts of the prostatic urethra are not uncommon. Many of them are found in the fossae between the colliculus and the lateral walls of the urethra and are probably retention cysts of the prostatic ducts. In one case a cyst covered the orifice of the left ejaculatory duct. The patient, a physician, was a marked neurasthenic. The left lateral prostatic lobe was larger than the right, although not tender on pressure. The left seminal vesicle was distinctly more distended than the right. The mere touching of the verumontanum with a swab caused a flow of secretion containing spermatazoa into the endoscopic tube showing the marked irritability of the part. There was no history of venereal infection.

The solitary cysts in this region differed in appearance from the cysts of the multiple variety which I have described. They were bluish-red, larger (from 5 mm. to 8 mm. in diameter), had the general appearance of blebs, and when incised, collapsed completely, leaving a distinct depression in the mucous membrane.

The origin of these cysts is as yet not altogether clear. J. Englisch,[1] in seventy necropsies on new-born infants, found, in five cases, cyst-like bodies at the border of the sinus pocularis, which he concluded were retention cysts formed as the result of a malformation or congenital inclusion of glands in this region. They caused obstruction to the passage of urine but usually ruptured either which had invariably accompanied ejaculation since puberty. A section of the wall of the cyst showed the mucosa of the sinus pocularis, the prostatic urethra, and the intervening layers including some of the glands of the mucosa. Its treatment by incision and cauterization resulted in a cure of the local and neurasthenic symptoms. Buerger and Oppenheimer[4] found a cyst of the prostatic urethra just within the margin of the internal sphincter at necropsy in a man who had died of peritonitis. The cyst was 6 mm. in diameter, had a number of very small cysts in its immediate vicinity and contained a mucoid greenish-yellow fluid with a few desquamated epithelial cells. They considered at that time that the location of the cyst was unique. Subsequent observations have shown that the condition may be more frequent than they supposed, for in a later article Buerger[5] described a number of such cases; among them he had observed three, which, like the two I have described, showed a cystic degeneration involving large areas of the prostatic urethra. All of these patients gave a history of one or more preceding attacks of gonorrhea, which were more or less protracted. This seems the only etiologic factor they have in common.

The pathology of this condition is more or less obscure. It is possible that they are retention cysts formed by the occlusion of the ducts of glands in the mucosa brought about by inflammatory changes. The mucous membrane of the prostatic urethra in the adult is apparently but scantily supplied with glands. Paschkis,[6] however, states that he has observed in the epithelium of the mucosa of the prostatic urethra, especially in the young, involution groups of cells, which differ in size, nuclei, staining properties and general characteristics from the surrounding cells; these, while possessing no mucus contents, no doubt represent, in his opinion, intra-epithelial glands, which are either in a state of functional rest or in process of development. Stoerk[7] and Zuckerkandl[8] found small collections of mucus in normal and pathologic cases, which, by pressure on the surrounding cells, formed cystic cavities. Stoerk held them as the after-effects of a pathologic process; Zuckerkandl considered these small collections as physiologic, but when numerous and large, as pathologic. If such is the case, the history of preceding attacks of urethritis given by these patients is significant.

The local symptoms were not distinctive; they were the same as we see in any long-standing chronic urethritis. The subjective symptoms, if any were present, were those characteristic of the neurasthenia accompanying many of the chronic diseases of the posterior urethra. They were the predominating feature in the first patient. This is often the result when the verumontanum is involved in a pathologic process.

CONCLUSIONS

1. A cystic degeneration of the posterior urethra may follow a preceding inflammation of the part.
2. There are no symptoms characteristic of this particular affection.
3. The only method of diagnosis is by endoscopic

Volume LXII
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EQUIPMENT OF A SMALL HOSPITAL: MAKING OVER A DWELLING-HOUSE *

JOHN ALLAN HORNSBY, M D.
Hospital Consultant to the Board of Commissioners of Cook County
CHICAGO

The time is rapidly approaching when every community of any size or importance must have adequate hospital facilities to take care of all the sick in the community; but this is not the case to-day. There are many communities of importance and considerable population whose hospitals, when they have any at all, are wholly inadequate to take care of the needs of the community in accordance with the modern demands of medical science. This means that in such communities the medical profession is far in advance of the hospitals. The grave responsibilities of the physician will not permit him to allow a condition of this sort to prevail if he can help himself, and thousands of most excellent physicians and surgeons in this country to-day are casting about for some scheme by which they can give to their patients modern surgical and medical attention. A great number are meeting this problem by acquiring and remodeling dwelling-houses in their neighborhoods and equipping these the best they can to do the work which they feel they cannot get done elsewhere. So important has this problem become within the last two or three years and so many inquiries are coming to hospital administrators everywhere from physicians that it was thought a brief paper on this subject might not be out of place.

Figure 1 shows a single house somewhat isolated from surrounding structures, thus giving plenty of fresh air and sunshine. This house occupies a position on one of the downtown streets of a town of about 15,000 people. Its owner, rather a well-to-do business man, was forced to move away by the encroachments of business. This house was rented for years and fell into a state of shabbiness and poor repair. The upper half story will lend itself nicely in the remodeling process to comfortable quarters for some of the help. Figure 2 shows the entrance, the small hallway, a staircase leading to the second floor, a closet under the stair and an opening from the hall into the dining-room. In this particular house there was a second or back parlor instead of the single parlor as shown in the illustration. A side porch to the rear gave abundant air-space downstairs. This parlor could be used for a parlor, a reception-room for a small hospital, or for two or three beds

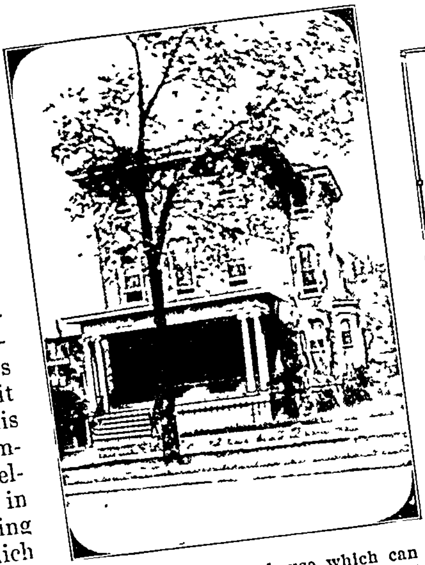

Fig 1.—A single house which can be remodeled, the upper half story lending itself to comfortable quarters for help.

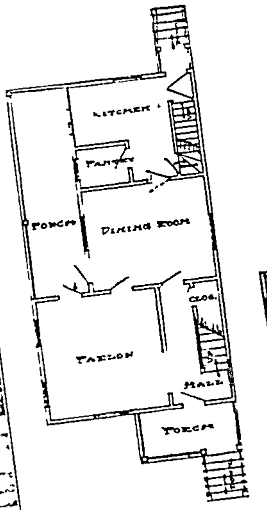

Fig 2.—The ground-floor plan of the house shown in Figure 1 A side porch to the rear gives abundant air-space

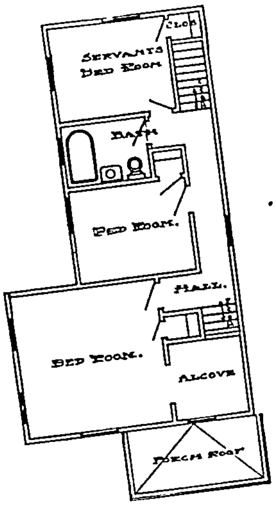

Fig 3.—The second-floor plan of the same house. A bedroom toward the rear will make an operating-room by knocking out the north wall and putting in glass

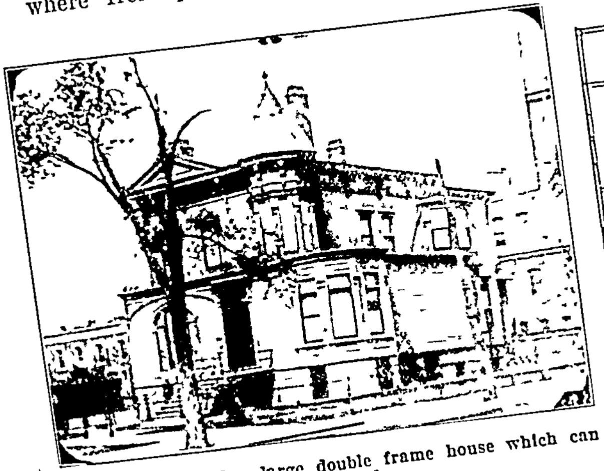

Fig. 4.—A rather large double frame house which can be used if nothing better is found.

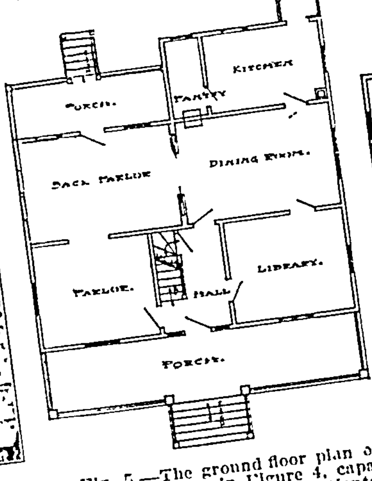

Fig 5.—The ground floor plan of the house shown in Figure 4, capable of taking care of four patients. It need not be remodeled, but some repairs are necessary.

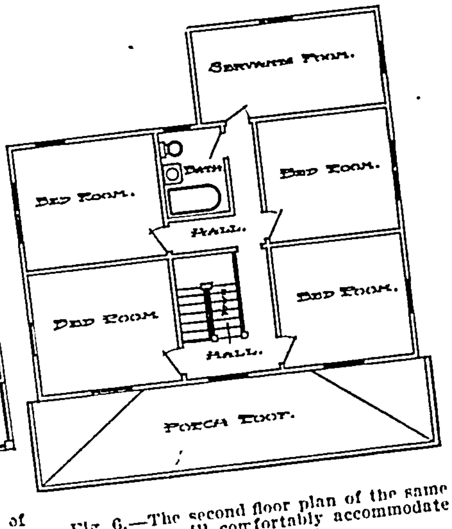

Fig. 6.—The second floor plan of the same house, which will comfortably accommodate from ten to fourteen patients.

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* Read in the Section on Hospitals of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

* Because of lack of space this article is abbreviated in The Journal. The complete article appears in the author's reprints.

as the proprietor found necessary. The dining-room would be used for a dining-room for well people as well as for convalescents. The kitchen and pantry will lend themselves very nicely for the small, private hospital purposes. Figure 3 shows the second floor with large bedroom and alcove, which may be used together for three or even four patients. Along the hall, toward the rear, is a second bedroom with one window and closet.

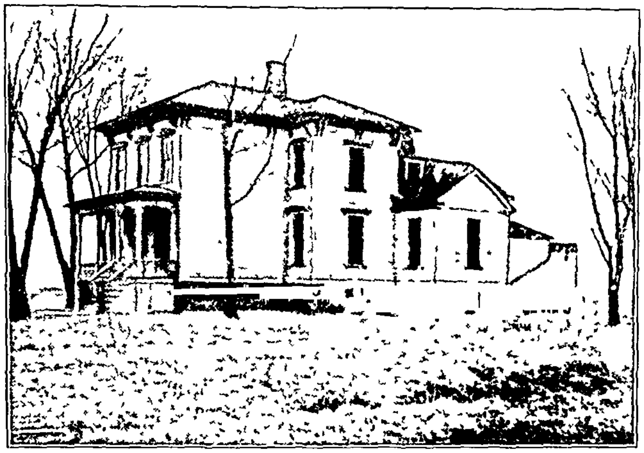

Fig. 8 —Farmhouse, later used for the Chicago Fresh Air Hospital, before alteration

Farther to the rear are the bath and water-closet and still farther another bedroom with windows on two sides. This was formerly a servants' room but will be large enough for one, and under necessity, two patients; or better still, a very nice surgical operating-room can be made of this room by knocking out the north wall and putting in glass.

Figure 4 shows a rather pretentious double frame house by no means ideal for a hospital, but capable of being made to do very nicely if nothing better can be found. Figures 5 and 6 show the first and second floor arrangement. Practically no modifications need be made in this house except whatever repairs are made necessary by its neglected condition. It will comfortably take care of four patients down-stairs and from six to ten patients up-stairs.

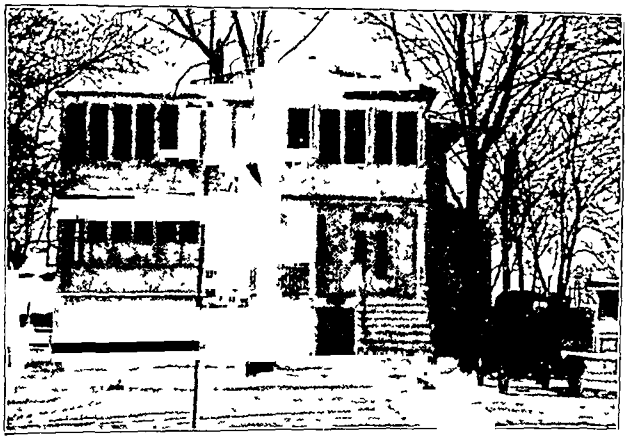

Fig. 9.—Front view, after alterations

Figures 8 to 16 give a meager suggestion of a plan that worked out extremely well. They give views and floor-plans of the Chicago Fresh Air Hospital, which Mr. James A. Patten of Evanston created, and the work of alteration on which was done by Mr. Meyer J. Sturm.

This was an old rambling farmhouse. Figure 8 shows the house before the remodeling, Figure 9 shows a front view after the porches have been enclosed. Figure 10

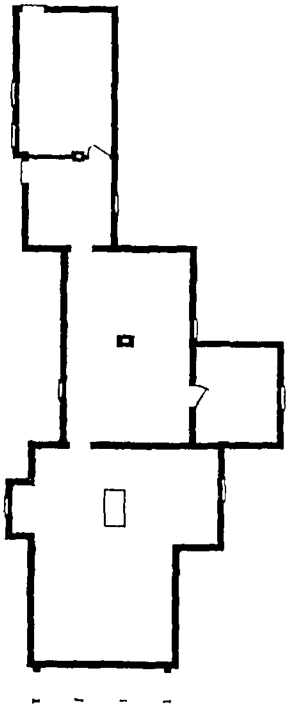

Fig 10 —The basement of the Chicago Fresh Air Hospital, before remodeling

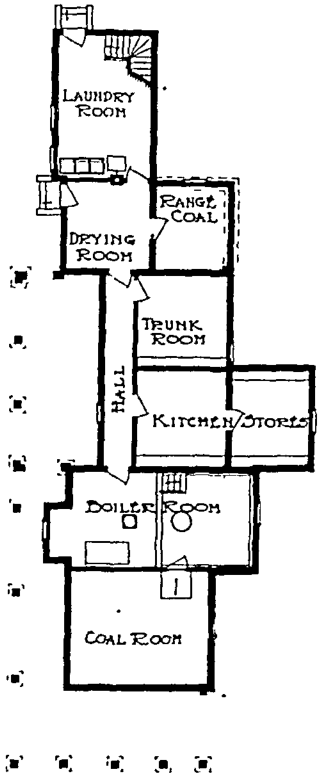

Fig 11 —The basement in its remodeled state.

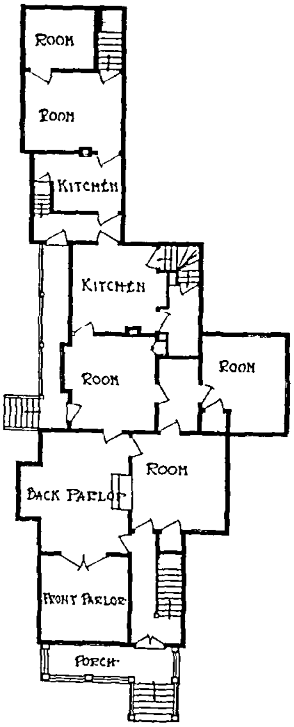

Fig 12 —The first floor plan before remodeling.

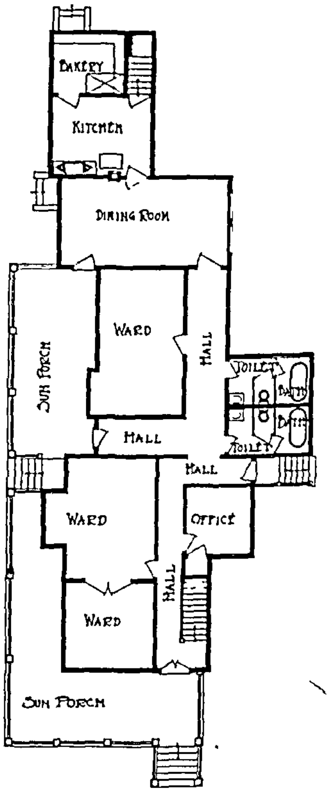

Fig. 13 —The changes made in the first floor.

shows the basement before remodeling, and Figure 11 shows the changes that were made in the basement. Figure 12 shows the first floor before the changes were made and Figure 13 shows the first floor afterward. The complete remodeling of this house cost less than $1,500, and it was made acceptable for the accommodation of forty-one patients. Figures 14 and 15 show the second floor before and after alterations. Figures 17, 18, 19 and 20 show a most interesting transformation of a residence into a 108-bed children's hospital. Two brothers, Messrs. Lyman, gave to the city of Minneapolis their two residences, occupying a block of 400 by 500 feet, one of the houses facing on one street and the other facing the next parallel street, so that the two houses backed up to each other with an intervening space of 100 feet. The smaller of the two residences was altered into a service building and home for nurses; the other was modified as shown in the figures. The cost of all alterations and equipment for both houses was approximately $5,000.

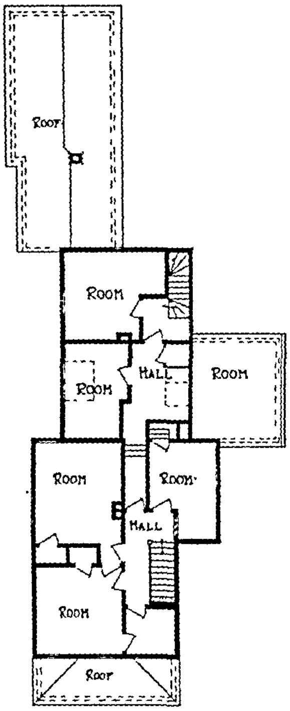

Fig. 14.—The original second-floor plan.

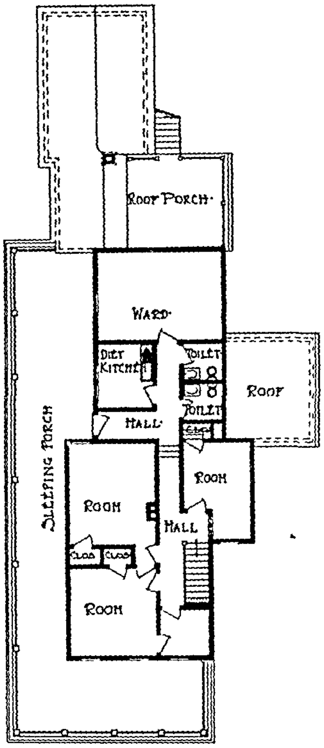

Fig. 15.—The second floor after remodeling.

THE EQUIPMENT OF THE SMALL HOSPITAL

In contemplating the equipment of one of these small dwelling-houses for hospital purposes, about the only thing that need be thought absolutely necessary is a small sterilizing-plant made up of water, dressing, utensil and instrument sterilizers. This plant adequate in size should be as follows:

2 six-gallon water sterilizers.
1 dressing sterilizer 16 by 24.
1 utensil sterilizer 16 by 16 by 18 inches.
1 instrument sterilizer 6 by 9 by 12.
Cost of sterilizing plant, $300.

The balance of the equipment for a hospital of this sort follows, with approximate prices which will have to be paid for the several articles, the whole equipment to cost approximately $952.50 plus $40 for each patient more than one, since the bed equipment for only one patient is counted.

THE OPERATING-ROOM EQUIPMENT

One of the principal reasons why the physician must have a hospital at all is to do surgery there, whether it be general surgery or the surgery of a specialty, as in eye, ear, nose and throat work, genito-urinary surgery, gynecology or orthopedics. A very simple equipment for such a room will be as follows:

1 table	$25.00
1 small cabinet	50.00
Ether masks, @ $1, or gas masks and apparatus, or both	75.00
Basin and arm plunge on stand	10.00
1 low stool for anesthetist, etc.	4.00
1 small table for anesthetist	4.00
1 instrument table, with extension	6.00
1 small table for surgical nurse	4.00
Cost of operating-room equipment	$178.00

WARD AND NURSING EQUIPMENT

In such a hospital we shall have one or two rooms for two or three patients each and perhaps two or three rooms for private-room patients, and I am considering now a hospital to contain, say, from ten to fifteen beds, and at this particular place the things necessary to nurse patients which will be used in common in all parts of the house and for all patients. These are:

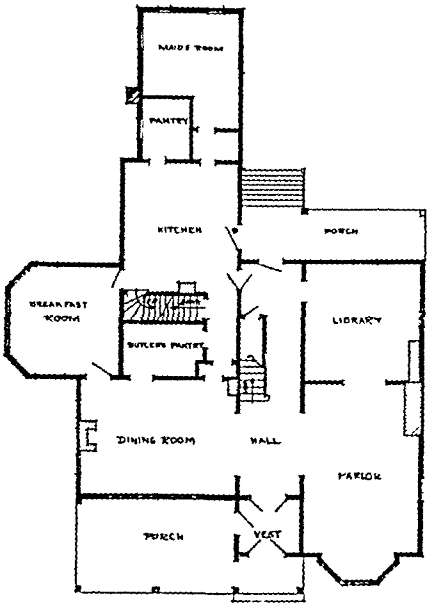

Fig. 17.—Lymanhurst, first-floor plan, before alterations.

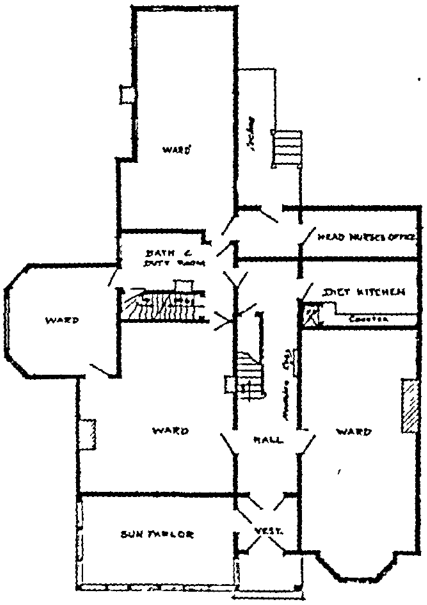

Fig. 18.—Lymanhurst, first-floor plan, after alterations.

Water or air mattress (latter preferred)	$25.00
1 dozen hot-water bottles (rubber)	15.00
1 dozen ice-bags (rubber)	12.00
1 dozen male urinals	12.00
Carried forward	64.00

Brought forward	$64.00
1 dozen female urinals	12.00
1 dozen nutritive funnels	3.00
1 dozen nutritive cans	12.00
2 stomach tubes—2 sizes	2.00
½ dozen soft rubber catheters	3.00
100 feet gum tubing, assorted sizes	8.00
½ dozen Perfection bed-pans	15.00
½ dozen Eureka bed-pans	9.00
3 packages assorted size orangewood splint mat	3.00
1 package strawberry-box wood	2.00
100 pounds hospital cotton	15.00
50 pounds oakum	3.00
100 pounds cotton batting	10.00
200 pounds rolled bandages, assorted widths and sizes, @ $0.35	70.00
1 Commode, chair and vessel	10.00
Cost of ward and nursing equipment	$241.00

EQUIPMENT FOR THE PATIENT—PER BED AND PER PATIENT

1 bed	$8.00
1 mattress	8.00
2 pillows	4.00
2 blankets	6.00
1 dozen sheets	6.00
1 rubber sheet	3.00
1 dozen towels	2.00
½ dozen bath towels	1.50
1 hair pillow	1.50
Cost of equipment per bed	$40.00

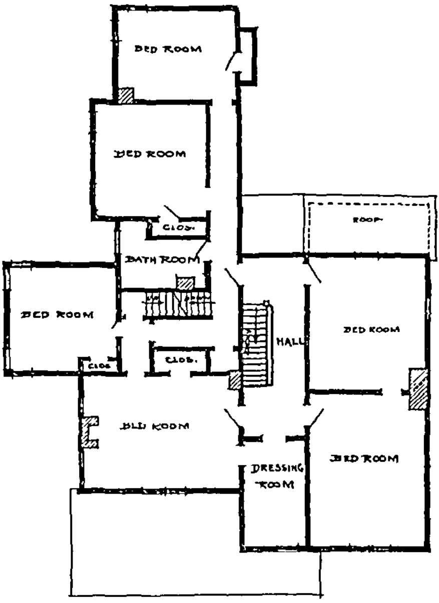

Fig. 19.—Lymanhurst, second-floor plan, before alterations.

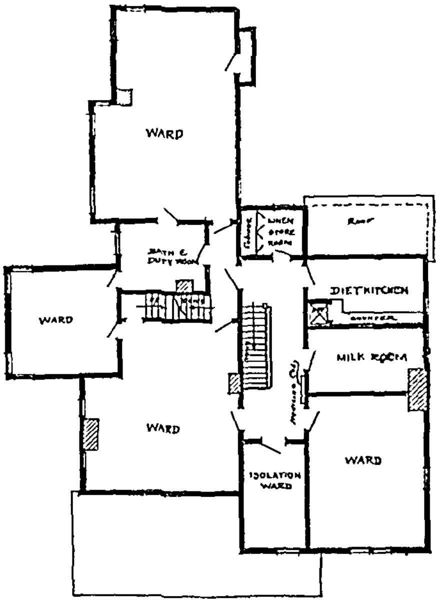

Fig. 20.—Lymanhurst, second-floor plan, after alterations.

Now we have equipped our little hospital except for the kitchen and dining-room service, and this will differ in no particular from what the same service would be for a private family. An ordinary range will cost from $30 to $50, gas or coal as may be desired; the ordinary kitchen and dining-room utensils will be about as follows:

Range			$50.00
Pots, pans, kettles, knives, forks, spoons			25.00
Cutlery:			
Knives, 3 dozen	@$2.50	$ 7.50	
Forks, 3 dozen	@ 2.00	6.00	
Spoons, large, 3 dozen	@ 2.00	6.00	
Spoons, small, 6 dozen	@ 1.50	9.00	
Dishes:			
Dinner plates, 4 dozen	@ 3.00	12.00	
Breakfast plates, 4 dozen	@ 2.50	10.00	
Bread and butter plates, 4 dozen	@ 1.50	6.00	
Soup plates, 4 dozen	@ 3.00	12.00	
Teacups, 4 dozen	@ 2.50	10.00	
Saucers, 4 dozen	@ 2.00	8.00	
Cereal bowls, 2 dozen	@ 3.00	6.00	
Cake covers, 2 dozen	@ 2.50	5.00	
Vegetable dishes (individual), 6 dozen	@ 1.50	9.00	
Vegetable dishes (large), 1 dozen	@ 6.00	6.00	
Soup tureens, 2	@ 3.00	6.00	
			$118.50
Cost of kitchen and dining-room service			$193.50

We have now spent $952.50 and our little hospital is complete. We must now add $40 for the equipment for each additional patient, since we have given the equipment for only one.

THE WARD UNIT OF THE GENERAL HOSPITAL *

EDWARD F. STEVENS
Hospital Architect, Associate Member American Institute of Architects
BOSTON

A noted architect said to me when I was a young student, "One needs one hundred years to study and then one hundred years to practice what he has acquired." If this is true in general architectural problems, it is doubly true in hospital planning; so that in the brief time allotted me this afternoon I can but touch the high points of the subject given me, "The Ward Unit of the General Hospital."

The ward unit is really the keynote of the hospital, for here the patient (for whom the institution is built) lives, eats, sleeps and spends his weary hours of convalescence. We should therefore never cease to study how to fill those hours with as much comfort as possible, to serve the patient good, palatable food, to guard him from undue noise and excitement from the working of the hospital, and to see that he has fresh air and sunshine. The planning of the ward unit, whether in a hundred-bed hospital or in a thousand-bed hospital, offers the same problem — the best care of the patient.

EUROPEAN HOSPITALS

Within the past few weeks I have visited and made a careful study of half a dozen of the more recent of the European hospitals. As the plans of some of these have never, I think, been shown in this country, it may be of interest quickly to review these general plans before taking in hand the subject of the ward unit. I shall consider these hospitals in the order in which I visited them—the Barmbeck-Hamburg at Hamburg, the Rigs at Copenhagen, the Bispebjerg at Copenhagen and the Munich-Schwabing at Munich.

The Barmbeck Hospital.—The new Barmbeck III City Hospital at Hamburg, now in process of construction by Architect Ruppel, consists of forty-four buildings and will house fifteen hundred patients. The cost will be 9,800,000 marks for buildings and 3,000,000 marks for equipment, total 12,800,000 marks, making 8,533 marks, or about $2,200, per patient. To build the same hospital in this country would cost from $3,500 to $4,000 per patient.

Ruppel's plan for this hospital has differed somewhat from his usual plan; for instance, he has placed the medical-unit center or the bath-house on the axis of his plan; while in the St. Georg, the Eppendorf, the Virchow and other large German hospitals, the bath-house is placed on the medical side, balancing the operating-building on the surgical.

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* Read in the Section on Hospitals of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

Rigs Hospital.—At the suggestion of one of your members, I visited the new hospitals at Copenhagen—the new Rigs Hospital, which has been occupied but a short time, and the Bispebjerg, which will be completed this year.

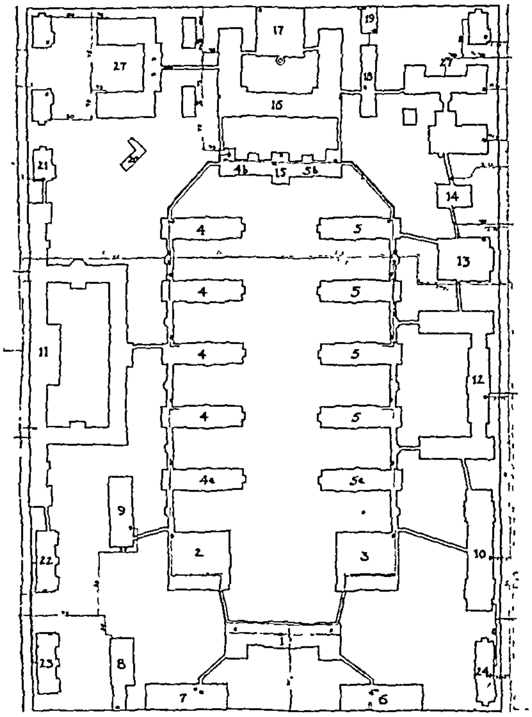

Fig. 1.—General plan of Rigs Hospital, Copenhagen.

The general plan of the Rigs (Fig. 1) is symmetrical, of the pavilion type, with connecting corridors in the main, divided into the surgical on the left and the medical on the right. There is no connection, however, between the medical corridor and the bath-house (13 on plan), which is unfortunate. There is, however, an underground connection to the morgue (14 on plan), and, as our guide expressed to us, she wished for the patient's sake that this arrangement might have been reversed.

The maternity department is one of the largest; here the vast army of unfortunate women which abounds in every large European city is cared for.

The ward unit (Fig. 2) of this hospital is worthy of study, for it is in many ways unique and has much to commend it. The staircase, elevator and noisy parts are kept at the extreme ends, away from the portion occupied by the patients. The serving kitchen, bath-rooms and sink-rooms are on a cross-corridor and the surgical dressing-room (14) and water-closets are removed to the opposite end of the building. The ward itself, containing twenty-six beds, is divided into eight sections, each section containing three or four beds. The dividing screen affords privacy to the patients and still allows free access to all parts of the room for the attendants. An isolation room and nurses' room are placed in the center; bowls for the surgeons' use and medicine-closets are placed in each ward.

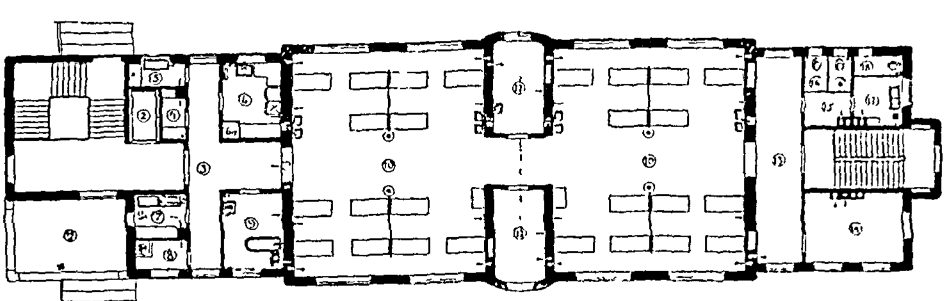

Fig. 2.—Plan of ward unit, Rigs Hospital, Copenhagen.

These screens (Fig. 3), only 6 feet high and 1 foot from the floor, afford the same ventilation as an open ward.

I consider this one of the best-developed ward units that I have seen in Europe.

Bispebjerg Hospital.—The new Bispebjerg Hospital is located on slightly rising ground; the site, containing 51 acres, is surely most ideal. This institution consists of forty-six buildings, two and three stories high. These buildings, while isolated above ground, are all connected by wide, well-lighted underground corridors; but only the six surgical units are connected by above-ground corridors.

I was unable to obtain detailed plans of a ward unit. The service is in the center, with a large day-room on the axis, two sixteen-bed wards at either end, with two six-bed and two three-bed wards. The details of the serving-kitchen, the sink-rooms, the laboratories and the dressing-rooms are most complete.

Every building has its own airing-balconies, and the grounds are laid out with special care for the comfort of patients, with arbors, benches and fountains.

The operating-units, two in number, were not completed, but gave promise of especially good detail. For one thing, the observers of the operation enter from a special door to the space between the outer and inner sashes of the operating-room, which is about 3 feet in width.

Munich-Schwabing.—One of the most modern and complete hospitals in Germany is that at Munich-Schwabing (Fig. 4). Here Architect Schachner has embodied the best of German planning and coupled with it the best of American planning. While he has separate pavilions, he also has everywhere connecting corridors, except to the buildings for contagious diseases and special treatment; and even here there are underground corridors.

The administration department is in the center, flanked by the chapel and nurses' residence on one side and by the offices and home for interns on the other. The surgical group has for its center the operating-building, and the medical unit the splendid bath-house. I should like to describe this bath-house, which I should say is the finest in all Europe to be found in a general hospital, but this is not the subject offered me.

There are no large wards in this hospital, the largest containing twelve beds, and all wards face the south, with opportunities (Fig. 5) for wheeling patients to the gardens and balconies.

The service-rooms are to the north, the day-room central with unit to the south and the laboratory and dressing-rooms on the north. The admitting-department for each ward unit is very complete. The patient is admitted at No. 11 and the clothes are removed and put into a container made of linen, which then hangs on a truck. The patient next goes to No. 12, where he is bathed, to No. 13, where he is given the hospital clothes, and then passes out through No. 8, where final examination is made and history completed, and thence to his room. The elevator at this part of the building is for the convenience of the second-story patients. There are airing-balconies for each flat, which are spacious and comfortable. with attractive window-boxes of flowers decorating the railing in summer.

AMERICAN HOSPITALS

The German hospitals which I have mentioned are supported largely by the government, while in our country conditions are vastly different. Many of our hospitals are owned by private corporations, and it is generally a question of accommodating the largest number of patients for the smallest amount of money. Our architects are forced, therefore, to economize in every way until the ward, in many cases, has become almost a barracks for the housing of patients, the attendants being obliged to put up often with the merest necessities. I am glad to say that some of the newer hospitals are rising in scale and, instead of making a number of rooms and leaving it to the administrator later to put what equipment he can into these rooms, they are allowing their architects to provide some of the more essential units, such as the laboratory, the surgical dressing-room, the sink-room and a serving-kitchen of sufficient size for the work needed, and to design and plan for the equipment at the time of making the drawings

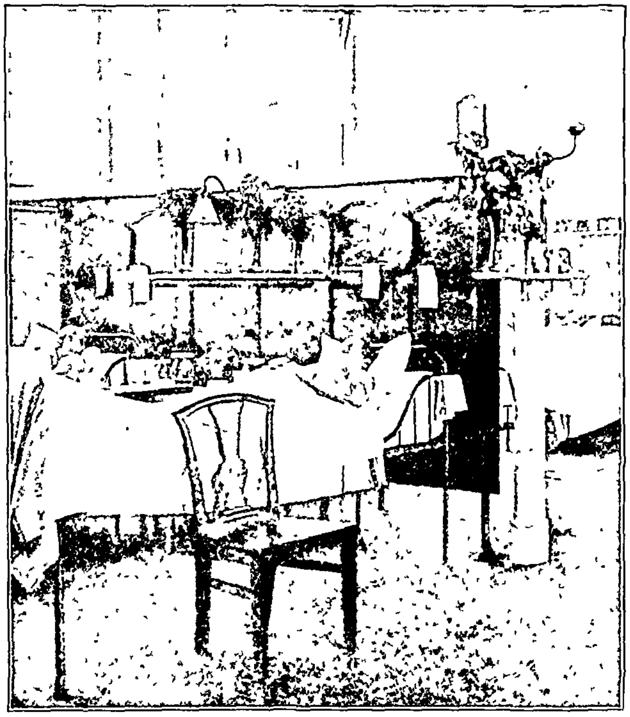

Fig. 3.—View of general ward, showing fixed screen partitions, Rigs Hospital, Copenhagen.

I have described a few of the recent ward units of Europe and would call your attention to some of our newer examples in American hospitals. I shall begin with the ward unit of the hospital of which the chairman of this Section is superintendent.

Peter Bent Brigham Hospital.—The care and thought expended on the working out of the plan of the Peter Bent Brigham Hospital makes it worthy of much study. Here Dr. Howard, with the assistance of his architects and engineers, has developed a ward unit which gives the patient every advantage of the open air, the sunlight and quick and quiet service.

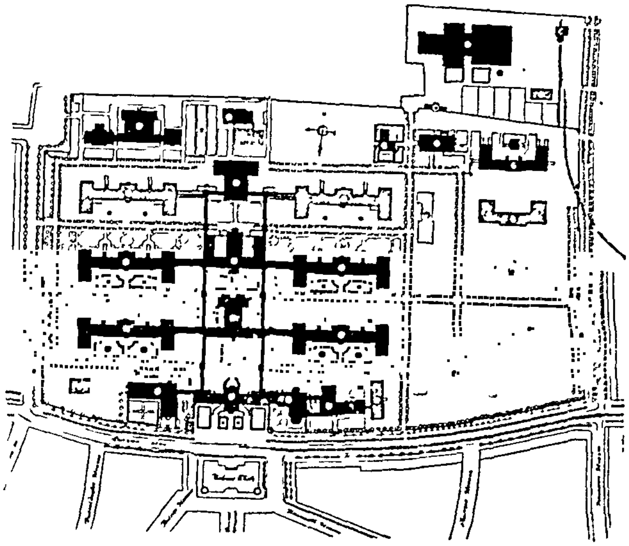

Fig. 4.—General plan of the Munich-Schwabing Hospital.

The staircase and elevator lead directly from the main corridor at the extreme north end of the building.

The first floor of this ward unit contains two large wards, one of eight beds and the other of fourteen beds, and two isolation rooms, while the diet-kitchen, duty-room, baths and water-closets are grouped together on the side opposite the main ward. A cross-corridor is also provided between the two large wards. On this floor there is a laboratory and consultation-room.

On the second story there is one large ward of twelve beds, with two isolation rooms, duty-room and water-closet and ample airing-balconies or terraces, thus providing outdoor space for all patients of this ward unit.

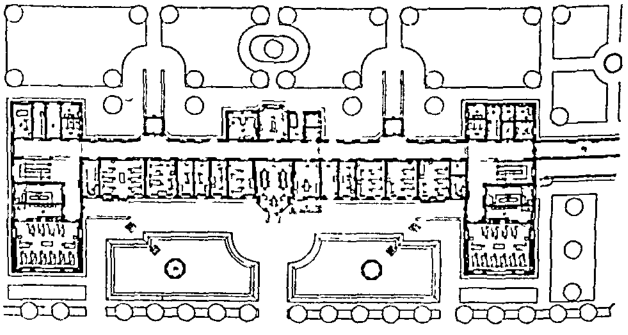

Fig. 5.—Plan of ward unit, Munich-Schwabing Hospital.

Cincinnati General Hospital.—Another carefully planned ward unit which shows the study of European examples is that of the Cincinnati General Hospital (Fig. 6). In this Dr. Holmes has given much thought to the perfection of the ward unit.

The nurses' station, while not directly in the main ward, is in such a position that it commands a view of all of the ward beds as well as the doors of the private rooms.

The patients' water-closet is entered through a fresh-air cut-off on the principle of best-planned English hospitals, while the sink-room is entered through the nurses' work-room or directly from the corridor. Additional water-closets are connected directly with the solarium, thus minimizing the work of the nurses and attendants.

The utilities, baths and toilets are grouped together, while the entrance to the serving-kitchen is directly from the main stair and elevator corridor. A large and commodious dining-room is provided for the patients who are able to be about.

Harper Hospital.—In the six-story building now being erected for the Harper Hospital at Detroit (Fig. 7) an innovation is introduced in the construction by making two 8-foot set-backs in the walls of the main pavilion, so that the first three stories provide for private rooms on either side of a wide corridor. The upper three stories provide for a ward of proper width for administration. This allows on the fourth floor of two large airing-balconies over the roof of the private rooms of the third story.

In this plan, also, the utilities are grouped in the center, with fresh-air cut-off between the main 22-bed wards and the utilities. Water-closets are provided at the ends of the large wards, as well as general water-closets off the main corridor.

On every story surgical dressing-rooms are provided, and on stories containing private rooms a special room for cut flowers is introduced. In this building a large roof ward is provided on the seventh story, with diet-kitchen and other utilities.

Bridgeport Hospital.—In the Bridgeport Maternity and Children's Hospital (Fig. 8) the ward unit is somewhat different from that of any of the other hospitals mentioned in this paper. In the main sixteen-bed woman's ward the principle adopted in the Rigs Hospital at Copenhagen is introduced; that is, there are four groups of four beds each, and these groups are divided by a stationary screen 6 feet or more in height, giving the semi-isolation needed in these rooms.

The crèche, as well as the serving-kitchen and sink-room, is at a distance from the ward and private-room patients.

In this plan an admitting-unit is provided, in which the careful examination and bathing of patients are conducted. Adjoining this admitting-unit is the isolation unit, in which any suspicious case can be kept for further observation.

The children's ward unit in this building is similar to the maternity ward unit, except that the screens are of clear glass, permitting the nurse on duty to have close observation of all the children and still affording the necessary isolation. The large day-room, with airing-balcony, is also provided, together with the surgical dressing-room and other utility rooms.

CONCLUSIONS

After a careful study of the hospitals, after living in them and with them and after seeing the treatment given by the different doctors, there would seem to me to be certain fundamental essentials which every ward unit should possess; by this I mean every ward unit of a general hospital in which the surgical, the usual medical and special cases are treated or in which the majority of cases that come to us in this country are cared for. These essentials can be classed under the heads, (*a*) comfort of patients and (*b*) accessibility to service.

Comfort of the Patients.—The ward should not be overcrowded. Each patient should have at least 1,200 cubic feet of air, should be able to get the sunlight, yet should be protected from it when necessary. The ward should be provided with fresh air, heated in winter to be sure, but fresh, not roasted air coming from damp, confined cellars, but from outdoors. Above all, the wards should be ventilated, and this ventilation should extend throughout the twenty-four hours in the day.

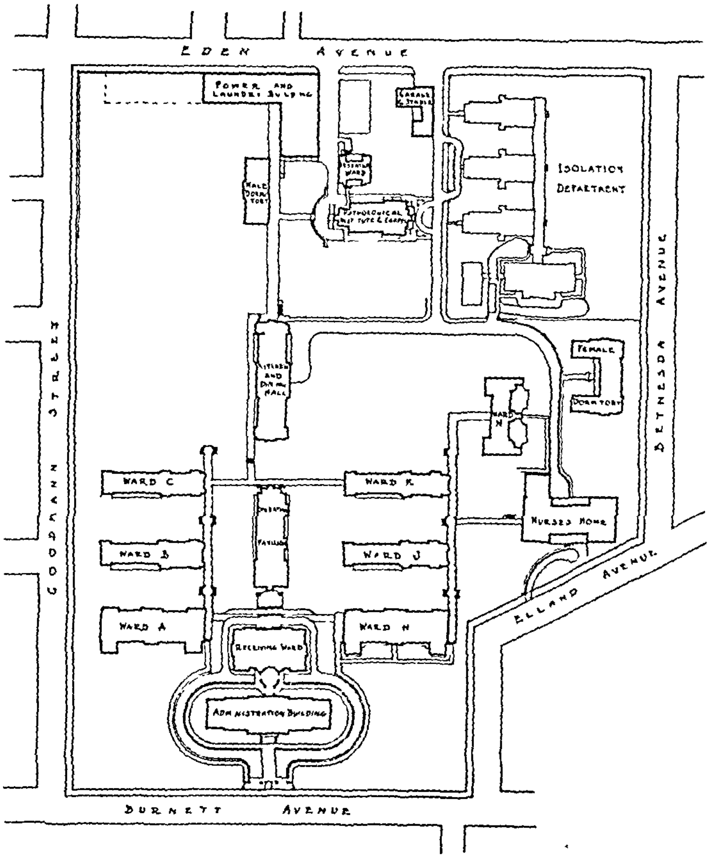

Fig. 6.—New general hospital at Cincinnati, block plan.

The patient should have semiprivacy and some place in which to hide the household gods which he may have brought with him and which are as sacred to him as some of our dearest possessions.

The lighting by day and night should be a subject of careful study. The patient's eyes should be shielded from the glaring light and a night-light should be provided, so obscured that the lighting of it for night inspection would not necessarily awaken the patients. It is my opinion that no direct ceiling light should be used, as a reflected light is much softer and more agreeable. There should be a bedside lamp, to be used for examination or for the patient's comfort in reading. Then, too, the windows should be so low that the patients, when in bed, can readily see out.

A resilient floor-covering adds not only to the comfort of the patients, on account of lack of noise, but to the comfort of the nurses as well. Linoleum, in its various colors and thicknesses, has proved a successful floor-covering.

The therapeutic effect of color on the patient is noticeable. The coloring of the lower seven feet of the wall with some warm shade, with perhaps a simple pattern of stencil above, gives the ward a cheerful aspect.

The addition of a few simple pictures (which can be removed from the walls daily for dusting) adds a little cheer.

Then the hardware should be thought of. How often is a patient awakened by the clicking of the latch! Why not eliminate the latch? Put a pull on the inside and a checking spring, and the noise is eliminated.

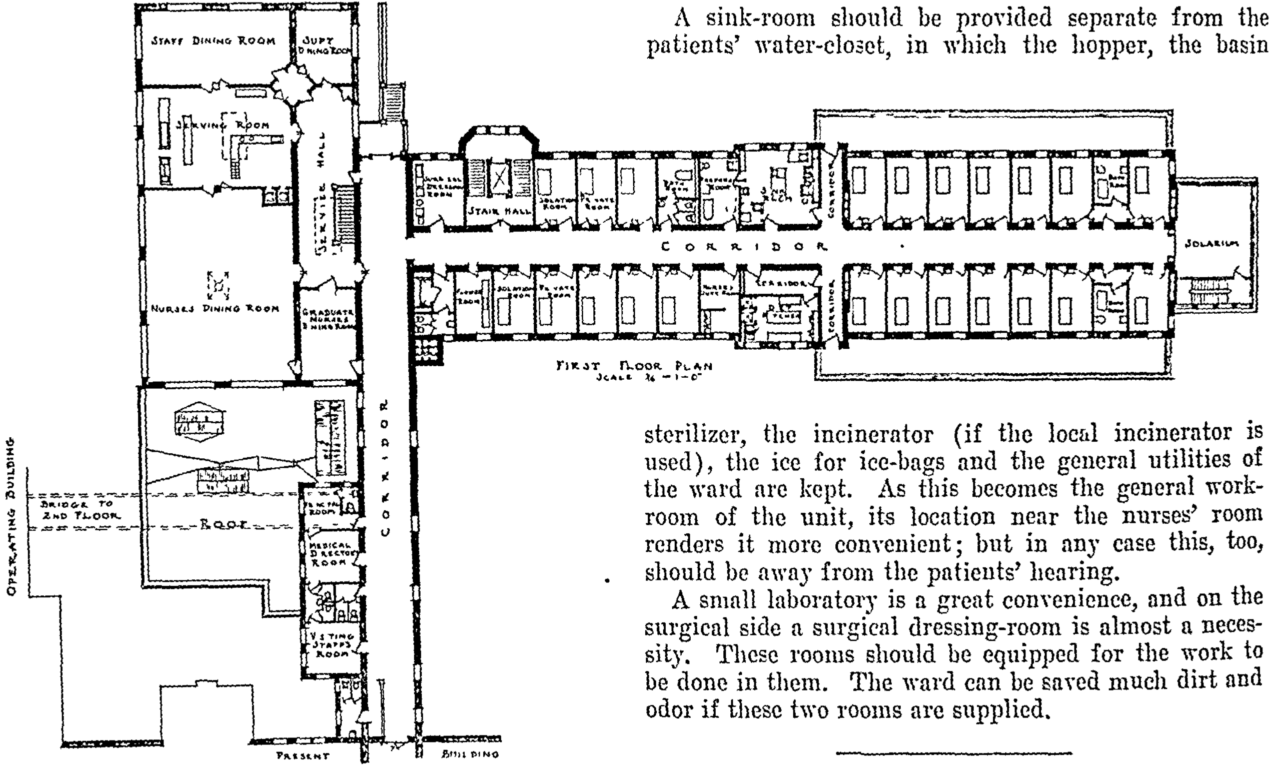

Fig. 7.—Harper Hospital, Detroit.

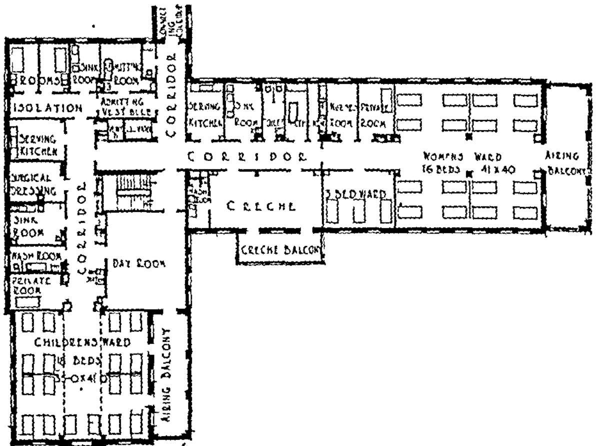

Fig. 8.—Maternity pavilion, Bridgeport (Conn.) Hospital.

The nurses' calls should be silent—lights, with perhaps a buzzer at the nurses' room, which would not disturb the patients.

Comfortable beds should be provided, with large casters for wheeling to the open air.

Provision should also be made for the comfort of the patient's visitor, with easy chairs, a table at which one may write a letter, etc.

Accessibility of Service.—Perhaps the most important thing is the serving-kitchen, to which the food should be brought hot from the main kitchen. This room should be of sufficient size to admit the various nurses and ward maids at the eating period. It should be equipped for necessary light cooking, for the keeping of food warm or cold, as needed, and, if necessary, for the cleaning of the china, for the convenient laying of trays, etc. Owing to the almost constant use and unavoidable noise of this room, it should be removed from close proximity to the patients' rooms, or should be provided with double doors.

A sink-room should be provided separate from the patients' water-closet, in which the hopper, the basin sterilizer, the incinerator (if the local incinerator is used), the ice for ice-bags and the general utilities of the ward are kept. As this becomes the general workroom of the unit, its location near the nurses' room renders it more convenient; but in any case this, too, should be away from the patients' hearing.

A small laboratory is a great convenience, and on the surgical side a surgical dressing-room is almost a necessity. These rooms should be equipped for the work to be done in them. The ward can be saved much dirt and odor if these two rooms are supplied.

ARCHITECTURE OF THE MODERN HOSPITAL FOR CONTAGIOUS DISEASES *

L. A. LAMOREAUX
MINNEAPOLIS

I hope that my paper may produce some discussion among members of the medical profession and possibly among the architects, because I am going to present a line of thought somewhat different from that which is usual on the subject of hospitals.

These institutions have followed the same line of development for centuries. They are being added to now and new hospitals are being built on the same principles that have been followed for the last hundred years. There are of course exceptions.

The United States is noted for its advancement in business buildings; we are the first country in the world in office buildings; New York is known the world over for its sky-line. Good contagious hospitals in the United States are the exception. That is, the contagious hospitals in the United States do not seem to have had the same amount of thought, care and money spent on them that has been spent on the general hospitals.

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* Read in the Section on Hospitals of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

Dr. Herbert O. Collins, superintendent of the Minneapolis City Hospital, and I had the pleasure of inspecting the different contagious hospitals in the United States. In selecting the best and most modern of these I think that both Dr. Collins and I would have no hesitation whatever in naming the Measles Hospital of New York City. It is a building probably 125 feet long and six or seven stories high and has more of the modern requirements of a hospital than any other we saw; it has conveniences for isolating patients in wards, conveniences for treating patients as they are treated in hospitals known as cubicle institutions, solariums, porches, splendidly lighted rooms and a handsome building taking it all through, so that without question it stands out as the best of the contagious hospitals. All the rest are developed on the old lines, that is, are scattered over almost a ten-acre lot.

The prevailing idea of any one who has the building of a hospital in charge seems to be that a large tract of ground is necessary and that the buildings must be scattered all over this tract. This principle is noticeable in all German hospitals; some of them cover acres and include forty or fifty two-story buildings, most of them connected by long, expensive underground corridors—tunnels, you might say—and possibly some corridors above. In our country this plan necessitates unduly large heating plants and unduly large fuel bills. It necessitates the construction of a basement which is about one-third of the building and is of absolutely no use except possibly for storing a few mattresses. These institutions would be better off without basements in nine out of ten cases; and yet one-third of the cost of the buildings goes into them. A large portion then goes for covering all of these buildings with roofs, which is unnecessary. and, moreover, a large amount of expense must be figured in for maintenance of these roofs. There is also an unusually large amount of outside wall. In the East we find the cost of these institutions running up to $2,000 and $2,500 per patient. That is ridiculous and unnecessary.

If I were given the problem of constructing a municipal hospital, say one in which contagious cases were also to be cared for, and I had a piece of ground one block square on which to build it, I should consider that almost ideal for a moderately large hospital, say, one which would take care of 2,000 patients. I should divide the building and block in halves. I should so locate the building that the sun would reach all the rooms both forenoon and afternoon; that is, I should, if possible, put the axis of each building on the north and south line. On one-half of this block I should build a general hospital, and on the other half a contagious hospital. Between these two buildings I should locate the power-plant, the kitchen and the laundry. Those would be the only portions of the building that I would have separated from the remainder of the institution. I would construct this building as we are constructing office buildings to-day. Here in Minneapolis we would probably build it of concrete; in Chicago and New York they would probably use the steel and tile construction. For the present needs I should make it possibly two, four, six or seven stories high. I would construct the supports of a strength to allow for the development to any height to which the institution is likely to go, say twelve, fourteen or sixteen stories. There is no reason why a hospital building sixteen stories high should not be most convenient; for example, instead of traveling through underground corridors and tunnels from one building to another over several acres, it would be possible to step out of a business or administration office, take an elevator and go in from fifteen to thirty seconds to any floor in the institution, and this would be a convenience which it seems to me would be up-to-date. This plan has another decided advantage; it makes it possible to separate different classes of cases; the medical cases and surgical cases can be placed on separate floors, the operating-rooms can be isolated, and all these separate units are quickly accessible to any one; besides, this plan has the advantage of light which cannot be had in any other hospital, the advantage of pure air away from the dust, and the advantage of increasing the size of the lawn for the use of convalescents, a thing which is impossible if the ground is practically all covered with buildings. Taking it all in all, it seems to me that there is a future for hospitals which has really never been touched on or thought of in this country.

I wish to mention a few points in regard to the present contagious hospital which we are beginning in Minneapolis. We have too little ground considering the fact that the plan which I have just outlined was not developed from the start. We have two-fifths of a block on which we are now erecting buildings which will take care of probably a thousand patients and will also have among them a nurses' home. If the old portion of the building had not been started three stories high and spread out, the system which I mentioned could have been carried out. I should like to start the institution over again. The city council has shut off our appropriation excepting $25,000, which is enough to start the basement, and which we now have. We have also an appropriation of about $250,000 for the building, but we shall not get that this year. The contagious disease hospital, which we are now building, is T-shaped. The dimensions on the ground are about 120 by possibly 100 feet. There are open-air corridors between the sections of the T. In one section of the T we have the nurses' rooms, sleeping-rooms, one or two rooms for help on each floor and two elevators. Each elevator has a compartment by itself and runs up through the different floors and connects with the outdoor corridor. Thus, in a sense, it has no connection with the contagious part of the hospital at all.

The next section of the T is divided into private rooms and what we term the observation room. The private rooms each have a separate bath, and are constructed *en suite,* so that a patient and possibly a patient's mother or some attendant can occupy them. The observation room has a few distinctive features which we found in different places. For example, each room has a Dutch door—one that is cut in two in the center; the top half opens independently of the lower half. This allows the lower half of the door to be closed in order to keep a child patient inside of the room so that he will not annoy the nurses and spread contagion by circulating through this portion of the building. It also, of course, gives more air and opportunity for observation by the nurses. Adjacent to this Dutch door is a plate glass occupying the remainder of the front of the observation room. This also gives the nurse a chance to see what is going on in the room, and makes the room a little more cheerful, and possibly makes it appear larger. A lavatory is placed adjacent to the door, the intention being to treat the patients as much as possible as they are treated in the cubicle hospital. This makes it possible for a nurse to wash as she leaves the room. The lavatory is provided with a high faucet, or you might call it a spray, so that the arms can be easily placed under the spray at the time of the cleaning up; it is operated by a foot pedal. The doors of the hospital are operated by a latch so that the nurse can use her elbow in passing to and from a room if she so desires. Adjacent to this door is a space for hanging gowns. At the opposite end of each observation room (in order not to be obliged to construct separate baths for each room, making a very expensive plumbing bill) there are water-closets separated by marble slabs; across the front of each a curtain can be drawn, or, if we see fit, a door can be hung. This room is so arranged that a patient can be kept there for a period of ten days or more without being obliged to go into other portions of the institution.

The wards are in the third section of the T. These wards are small, accommodating not to exceed from five to eight patients each. In some hospitals that we inspected we found as many as fifty-one patients in a ward. This, of course, I know the physicians were not at all to blame for, but was simply due to the fact that they had not sufficient appropriation for buildings to take care of the patients. We found patients occupying both ends of the same bed, not only in one but in dozens of cases. I shall not discuss that further, however. Our wards are so divided as to accommodate from five to eight patients, as I said. They are also provided with glass screens of the kind used in the cubicle hospitals. A large number of the rooms will be so divided. The convalescents, of course, occupy the wards before they are passed out of the institution; consequently the solariums are connected with these wards. They are provided with casement windows to be closed in the winter. The solariums occupy the entire length of one end of the building, and each floor in the institution will have one, so that all the wards in the building will have access to them. They are about 10 or 12 feet wide and 40 or 50 feet long.

The second floor has been assigned almost entirely to pay patients. Being a city hospital, the institution has to take outside and pay patients as well as free patients.

A few of the general utilities, which, of course, ought to be in any up-to-date hospital, have been concentrated as much as possible in the center of this T. There are clean-up rooms opening directly into this, in which there are lavatories for the doctors and nurses; from these they must pass into the clean room and thence into the open-air corridor. These doors are so constructed that they cannot be opened from the inside; for example, when a person enters the soiled room, he cannot pass back into the institution, but must go through the clean room and open-air corridor and come out the other way. Thus indiscriminate running in and out through these rooms is prevented.

One of the other central features is a clean-up department for the patients as they go out. This constitutes a bath-room and a clean room, into which the patient takes his clothes and from which he goes into one of the elevators. It is our intention as much as possible to keep one of the two elevators clean and the other for the general use of the hospital.

Another feature in the central portion of this T is the diet-kitchen. This opens directly opposite the elevator and onto the open-air corridor through two windows; through one of the windows the food is passed in. There are no dumb-waiters in this institution, the intention being to use the elevator for bringing up food-cars. The food is brought to a point in front of the diet-kitchen and passed through one of these windows. The other window is intended for the passing out of utensils and pans which are necessarily returned to the general kitchen. It is the intention to return as few things as possible, keeping all the dishes of each floor in the diet-kitchen. When the utensils are sent to the general kitchen they pass through a sterilizer, which consists of boiling water inside of a large vat, arranged much like a dish-washing device. In the central portion of this T we also have a series of incinerators, one on each floor, above each other.

We are contemplating taking care of 300 patients in this way. The building is designed for thirteen stories. We are going to build eight stories at present and add to the building as it becomes necessary.

One other thing which seems to be quite essential. and which we found in but one contagious disease hospital in the country, is an alarm-bell. Each floor of our institution will have an alarm-bell, that is, a button covered with a piece of thin glass, which will necessarily be broken before an alarm is turned in. This alarm-bell will be rung in the rooms of the house-physician and, of course, is intended to be used in case of an emergency when a patient needs immediate attention.

Another feature which seems necessary in a city hospital is that visitors be admitted, even to the contagious department. We have provided on the center of this T a small visiting-room with plate glass between the air-corridor and visiting-room. This will permit of the bringing of a patient into the visiting-room so that a mother, for instance, can see her child without being infected or coming in close contact with it. The hospital is arranged so that live steam can be turned into several of the rooms on each floor.

The institution has four or five admitting-rooms. These are just as small as possible and are designed and finished with the idea of making the room sanitary. easily cleaned and easily fumigated. They connect directly with the elevator.

Besides the clean-up rooms on each floor, which are intended mostly for doctors' use and for nurses passing in and out and going to the dining-room, etc.. there are general clean-up rooms in the basement. The basement is well above the ground so that it will be reasonably light. These clean-up rooms are for the doctors, nurses and male and female help. Here they have lockers in which their clean suits are kept and they can thoroughly clean up when they are going to leave the institution.

In the basement there is also one large diet-kitchen with all the conveniences of a hotel kitchen; there are lockers which will take care of the clothing of the entire institution, a sterilizing room and laundry. The laundry is divided into two sections.

The clothes-chute, which reaches a balcony from each floor, opens outside and has no connection whatever with the inside of the building. It is also open like a flue to the top of the building. It is so arranged that it can be sterilized and washed with hose. This clothes-chute opens into that section of the laundry into which the soiled clothes are first sent; it is separated from the clean portion of the laundry by a solid partition; sterilizing tubs, running under high pressure, are placed half in the cleaning-room and half in the soiled room, thus permitting the clothes to be placed in the water, sterilized and taken out in the clean room; from here they are sent to a general laundry.

The motors for running the elevators, a morgue and a chapel are also in the basement. The chapel cannot be reached directly from outside; persons entering the chapel are required to pass through the office of the institution.

CONCLUSIONS

As arguments for a high building I would mention economy in the purchase of ground; good air above and freedom from noise and dust, quick access to all parts, economy in plumbing installation and in the fuel bills, saving of time of doctors going to and from the institution, ease of getting clothes to the laundry and ease of getting hot food to the patients.

For many of the ideas which I have mentioned I am indebted to the superintendents of hospitals; for example, Dr. Hornsby of Chicago, Dr. Place of Boston, Dr. Richardson of Providence and Dr. Wilson of New York.

ARCHITECTURE OF THE GREAT CHARITY HOSPITAL*

RICHARD E. SCHMIDT
CHICAGO

The large charity hospital, which must handle a great many patients at the least possible cost and give them the largest possible measure of intelligent care, should be arranged architecturally so that the physicians, nurses and the common employees can do the greatest amount of work with the least expenditure of time and energy.

These principles have guided most hospital architects and the difference in the arrangement of these great plants in different institutions is due to the valuation by architects of the respective services.

I shall try to picture the ideal institution of this character:

1. The administration department is naturally the gateway to such an institution; it is, therefore, the first building that we enter; the offices are there; the information bureau is there; all business with the outside world is conducted there. It should therefore be convenient to reach.

2. A division of the administration department of the institution is the admission bureau with its examination rooms, its dispensary, or outpatient department, its baths for the admission of patients, its clothes-lockers, and, since all clothing must be sterilized before it is put away, its clothing sterilizer. This business of sterilization is quite a technical one under modern-day methods, including the handling of steam machinery, and should be in the hands of experts. Dressings of all sorts and various materials that go to the operating-rooms and to the surgical dressing-rooms must be sterilized. These materials must go to all units of the hospital, however many there are and wherever located, and it would seem an ideal arrangement to have the whole sterilization plant at one place where it could be under the control of people who are doing nothing else but that work, so that it will be done expeditiously, economically and methodically. Thus, the whole sterilization plant would become a unit of this admission bureau.

3. The stores of the hospital, whether papers of pins or cars of coal, must be receipted for by the responsible storekeeper, and these stores are subsequently distributed to all parts of the institution. It would seem, therefore, a good plan to have the storekeeper's office and his store-rooms located at some central point, and as that officer is a part of the business administration of the institution he belongs somewhere in the neighborhood of the administration bureau.

4. Modern humanitarianism is demanding more and more all the time for the convenience, comfort and care of those unfortunate members of society who cannot help themselves, and especially is this true of the sick poor. One of the greatest factors in the comfort of these people is good food, properly, quickly and intelligently served. This means that things which should be hot should reach the patient hot, and things which are intended to be served cold should reach him while they are still cold. We have already suggested that the stores should be at a central point for better distribution, meaning ice, milk and vegetables, as well as the surgical and medical supplies and the household materials, and if to keep these stores at a central point it will add materially to the economical administration of the institution if we have the kitchen and serving-rooms near by.

We have, therefore, another unit added to those which I propose to locate centrally. In many places, especially in the large institutions of Germany, steam or electric trains carry the food from some remotely located kitchen to the various points of distribution in the wards. Experience has taught us that, while these trains are economical and efficient, as to the physical work of transporting food, they are not entirely satisfactory from the point of view of the patient, as the food does not reach the sick in an appetizing and palatable condition. It would seem that a better plan would be to have the kitchen so centrally located that the food could be rushed in an appetizing condition to even the remotest point of distribution.

5. The pathologic department of an institution has come to be recognized as one of its most important factors. The morgue is a part of this unit, with ice-boxes, necropsy rooms, which should be well lighted and comfortable as to temperature and ventilation, and, if there are students to be thought of, and especially if there is a school connected with the institution, a small, well-arranged amphitheater. As all dead bodies are brought to the morgue, it becomes necessary to place on view there the unidentified dead; for this reason a chapel also becomes a part of the pathologic unit, in which services can be held over the dead; this is especially necessary with the poor, who are the sole patrons of these institutions. Many of these cases must be passed on by the coroner; therefore, there must be an inquest-room with witness-rooms adjoining. There are perhaps some objections to having all this array of rooms in direct connection with the laboratory of pathology, but it is inconceivable that the morgue and necropsy rooms should be at a distance from the pathologic department when, as a matter of fact, the moment that breath leaves a human body that body at once becomes a pathologic specimen and, when a necropsy is to be done, is turned over to the pathologists, and since where the dead body is, there must also be the coroner, his witnesses and jurors and the chapel for the last rites for the dead.

In this day most large institutions are fitted in the various units with small auxiliary laboratories in which the simpler pathologic procedures, such as urinalysis, blood-counts, blood-pressures and smears of various sorts identified under the microscope, can be carried on. Many of the simple procedures, however, become complicated at certain stages and the facilities and perhaps the more expert knowledge of the central laboratory must be invoked for an efficient settlement of mooted questions. The central laboratory should, therefore, be so located as to afford ease of access from the auxiliary laboratories in the various units of the institution. Then, too, there are vaccines to be given which are kept in the refrigerators of the central laboratory because the conditions under which they must be kept are exacting and their repository must be carefully watched for correct temperatures. There are autovaccines to be made; these autovaccines must be incubated under carefully directed conditions, in carefully regulated incubators, and the technic of their preparation is most exacting; hence they are always made in the central laboratory. There are serums to be prepared and administered in almost every unit of a general hospital. In the children's department, in the lying-in bureau, in the surgical and medical wards and in the infectious disease quarters, as for instance, the antimeningitis serum and the diphtheria antitoxins.

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* Read in the Section on Hospitals of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

One can see how necessary it is, therefore, that the pathologic department shall be centrally located to save time and expense in energy.

6. If there is a school or if there are lecture-rooms for large bodies of students, they should also be centrally located because often the material to be used before the classes will come from many points in the institution, and the closer by these points are, the better it will be for patients. Of course, there will usually be small clinic-rooms for small numbers of students. located in the various units, where one or two patients can be examined at a time by half a dozen students under the direction of a demonstrator or clinician.

7. It will depend on many conditions whether there shall be one operating department located centrally, or whether there shall be a number of surgical operating-rooms, each one located at a point convenient to a particular class of patients; as, for instance, one operating-room in the children's department, one in the gynecologic department and often one in the obstetric department; and in the large institutions there is also a genito-urinary department, for many surgical cases of this class are highly infectious. There is much surgical work to do even in the obstetric department—cesarean sections, pubiotomies and the ordinary post-partum repair work. In tuberculosis some of the most satisfactory treatment is now surgical; in tuberculosis of the bones and joints, for instance, and in active tuberculous processes in the intestines or pleura. There is often a certain amount of brain-work that can be done for tuberculous patients nowadays. In fact almost every department of the hospital supplies its quota to the surgical operating-rooms. The medical profession is not agreed for or against a centralized operating-plant. The cost of administration when the plant is divided into an operating-room for each class of patients is exceedingly high. Nurses and interns must be kept on duty whether or not there is work to be done. The apartments must be maintained in an aseptic and scrupulously clean condition, which takes a vast amount of work compared with the small amount of operating. Some physicians insist that it will not do to bring venereal cases into an operating-suite in which clean surgery is done and in which gynecologic cases are infected on their admission: some general surgeons object to having these cases brought into clean quarters. On the other hand, the advocates of a central operating-plant insist that no case should ever be brought to any operating-room until it is surgically clean and that the vilest venereal operation may be quite as clean as the operation for a ruptured appendix. Eventually the surgeons and medical staff of the institutions will probably be called on to determine whether their operating department may be centrally located in the interest of economy and efficiency as a whole, or whether they prefer to take the hazards incident to a large number of operating units located at widely different points and perhaps maintained under less careful supervision than would be the case in a central plant. It seems to be admitted that prompt, quick and careful transportation of patients even over considerable distances, as, for instance, from one building to another, is not trying on the patients and is not hazardous, as a rule, and in some places recovery-rooms are employed to hold patients until they are in a condition to be moved back safely from the operating-rooms to their own beds.

I have now pretty exhaustively covered the group of units that I think should be located in a central area, easily reached from all parts of the institution. The transportation for everything in connection with this layout can be done through well-lighted and well-ventilated tunnels underground, running through the basement of each building, and these tunnels can also be used for carrying the pipes for the physical service of the whole institution. The tunnel, for instance, can be 16 feet wide by 7 feet high. Nine feet of this tunnel can be used for passenger and freight service and a separate wall can be built up to separate the pipe tunnel from the other structure. The whole tunnel can be made of reinforced concrete, including the dividing wall and the roof. On each side of the pipe tunnel hooks or hangers can be placed, and if 2 feet on each side of this tunnel are taken for pipes, 4 feet will be left for a passage and workway, and this tunnel will contain all necessary pipes for heating, refrigeration, hot and cold water, electric conduits, etc., that are necessary for institution service. Arranged in this way they are easily accessible for repairs, or renewals or any changes that may be required. The passenger and freight part of the tunnel need not be elaborate. A solid concrete floor with smooth finish can be made to answer every purpose, although terrazzo or some of the monolithic or tile floors add to the appearance of the tunnel. The walls can be waterproof cement, white enameled, with a glazed finish, or they can be made of vitrified glazed tile, which is far costlier. The roof can be made of waterproof cement with a glazed finish, white enameled, or treated in any other desired way. Ventilation can be had by air-ducts at intervals, or the whole tunnel can be ventilated by running a shaft into the general ventilating shaft of the institution or by allowing the top of the tunnel to be a few feet above ground with small transom windows for both air and light.

If this general plan is carried out, elevators will be necessary in every building which communicates with the tunnel and is intended to be a part of the general service, but automatic, electric and hydraulic elevators are being made so efficient at present, (and "fool-proof") that they can be regarded as perfectly reliable. Although the cost of installation is a little higher than that of the man-operated elevators, the up-keep is low, as they do not require an elevator man to each car.

There are certain administrative units that will not be required as a part of this central area.

1. The mechanics or transmission of water, steam and electricity are so efficient that the refrigeration, ventilation and steam and electric service of the institution can be conveyed over considerable distances with comparatively little loss of efficiency. If the steam and refrigeration pipes are well covered, and if the electric service is well insulated and the whole transmission system is well installed, there is no good reason why the power-plant should not be located at the outskirts of the land area of the institution where the noise of the machinery and the smoke and dirt will not interfere with the established order of things in the institution proper.

2. The laundry is in reality a part of the power-plant of the institution. It requires immense quantities of hot water and live steam. It deals with complicated mechanism that should be under the control, operation and guardianship of the engineering department. The laundry should therefore be immediately adjoining, or a part of the same building with, the power-plant and there is no good reason why this should not be the case. It is not very much trouble and takes very little time to transport a cart of soiled linen three hundred feet more or less, or even a quarter of a mile, because large loads can be hauled. An ordinary depot truck with rubber tires and electric motor can be used for the purpose if desired. These are made most efficient now and are in use in all the large depots of the country. They move rapidly, pull large loads and are easily handled. Automatic elevator service can be employed if necessary to locate the laundry over the power-plant and excellent administration technic can be employed for the handling of soiled material into the laundry and clean material back into the building through the tunnel. In most institutions heavy canvas bags, which prevent the spread of infections, are used for the soiled linens and these serve to save the goods from rough handling at the hands of the help. Even the linen-rooms can be located in the laundry if desired, and there is no particular reason why they should not be.

3. The incinerators for garbage from the kitchen suite, which will be vastly greater in quantity than the refuse from any other single unit, can be destroyed either in the fires of the power-plant or in an incinerator near by which will feed its smoke into the regular power-plant used. In most large institutions incinerators are being installed in the walls of the slop sink-rooms of the various units, for the destruction of garbage, dressings, etc., from those units. This system of destroying garbage in the various units will grow in favor and will come finally to be universal if the makers of these mechanical contrivances can devise a plan that will not render their use too costly in gas consumption.

ABSTRACT OF DISCUSSION

ON PAPERS OF MESSRS. STEVENS, SCHMIDT, LAMOREAUX AND HORNSBY

DR. CLEVELAND H. SHUTT, St. Louis: One of the speakers made the point that the European idea of hospital construction has developed largely in the direction of spending much money in covering a large area with low buildings and not affording bed space proportionate to the expenditure for the care of patients. I believe that it is reasonable that we should care for the greatest possible number of patients with a due regard to expenditure.

Nearly all of our cities provide free hospital facilities and many of them provide some opportunity for pay patients also. Each city has a certain revenue annually, and out of that revenue various departments must be maintained. Those who have been in public hospital work have difficulty in obtaining the necessary funds for conducting and erecting institutions. Aside from the justice or injustice of the situation, it is the actual condition with which we have to deal. An institution erected on the story plan, for a public hospital, is more economical in maintenance and in the original cost

The paper regarding hospitals for contagious diseases interested me much, because in St. Louis we are just preparing to erect such an institution. We have adopted what might be styled the unit system—a separate unit or building for each of the more important diseases, scarlet fever, measles and diphtheria, and one other building for miscellaneous contagious diseases like whooping-cough, chicken-pox and erysipelas. Each building is also arranged for sectional isolation. Our aim has been to isolate everything connected with one disease. Everything coming from a building will be sterilized before it leaves it, including the laundry, food and utensils. There will be incinerators, steam sterilizers and utensil sterilizers in a service-room at the entrance of each building.

There will be a one-story isolation building having sixteen units under one roof. It will really consist of sixteen little houses under one roof with a corridor between, affording air on all sides. We have made some improvements on the Philadelphia plan by providing a small room in each of the units for a nurse to live in, with a glass wall to give her opportunity to observe the patient at all times.

We are not providing a building for private patients, profiting by the Philadelphia experience that there were not sufficient patients to justify the maintenance of the building further as a private building. We are having rooms constructed in the main building so arranged that they can be utilized for private patients.

DR. JOSEPH B. HOWLAND, Boston: The use of incinerators in individual wards is, it seems, becoming general, although it is likely to be expensive. At the Massachusetts General Hospital all ward refuse, whether garbage or dressings, goes back to a central room and is inspected. The result of those inspections has shown that it would be expensive to allow the nurses and help to burn up anything that they thought might be disposed of in the ward.

Garbage inspection shows how much garbage is coming from an individual ward, which may indicate that the nurses are serving entirely too much food. It also gives us a clue to the fact that certain foods are not being eaten well; it gives us a hint that may be useful in the kitchen. We also find things that should not be there. Then in the disposal of our dressings we find all sorts of extravagance. If those dressings are burned, safety-pins, rubber tubing and many things that could be used again are destroyed. I cannot see any good in incinerators in the wards except in a contagious hospital, perhaps. I have had no experience with them. I think that the plant should be centralized and all that waste should be inspected before it goes to the incinerator.

DR. CLEVELAND H. SHUTT, St. Louis: We have one building with sixteen isolation units. It will be arranged so that we can isolate any disease in that building, and isolate an entire family with a nurse in the room, if desired. That is where we expect to treat the menace infection.

In each main building there will be two rooms that can be sterilized at any time. If a patient should be in the measles ward and develop diphtheria, as soon as this is suspected, he will be moved into the isolation room.

DR. E. E. MUNGER, Spencer, Iowa: I can hardly agree with everything that Dr. Hornsby has said in his paper as to remodeling an old residence to make a place in which a man can do good work. A man can do good work in a kitchen with proper assistance. There is one serious objection, however, to the establishment of many more small private hospitals, whether made by remodeling old buildings or with new bricks. We have quite a supply of small private and so-called public hospitals, and too many of them are the outgrowth of a desire to further personal and selfish (if not sometimes ulterior) interests. Some of these small hospitals are about the least concerned with the public welfare of any quasi-public institutions with which I am familiar. Judging from common comment they are fairly remunerative on the side of selected surgical cases, while on the hospital side they are flat failures. They do not favor that professional harmony which makes for cooperation and resulting benefits. On the contrary, they foment discord, jealousy and conflict among medical men and encourage general dissatisfaction and suspicion among laymen. They do more than this: They make it easy for competitors not recognized in these private hospitals to refer their patients elsewhere to whomsoever they will, with or without a division of fees. This occasionally reacts on the proprietor of a small private hospital, who in turn is forced to the wall, or worse. Many more small private hospitals are not needed. I would not have these remarks construed to mean that there are not many capable men who are struggling to maintain hospitals for the benefit of the public. There can be no doubt about this, but these same men could render a much greater service to the public and be themselves more justly rewarded were it possible for them to serve the public through a public hospital and be relieved of the cares and anxieties incident to the business side of their undertakings. I called the attention of this section a year ago at Atlantic City to the effort we are making in Iowa to remedy some of these things and provide hospitals for the people along the lines which have been indicated showing what they are doing for the people in a corporation community.

Dr. F. W. Robinson, Sturgis, Mich.: I live in a town of five thousand population and own a private hospital. Every physician in the town is interested in the hospital and takes a personal interest in the standard of work done and the prosperity of that institution. I am somewhat surprised that in these papers the corporation hospital has not received more attention. Most of our hospitals, in our cities especially, are located on noisy street-car lines with the idea of getting the hospital centrally located and easily reached. Now one block or three blocks or ten blocks amounts to nothing as compared to the comfort of a patient. I believe that the time is coming, and it is not far distant, when we are going to see our patients receive better care. I believe that each hospital should be so constructed that each room will open onto a screened porch, so that the bed can be pushed right out of the door onto the porch without having to be dragged along a long hall.

I disagree with Dr. Munger on the question of the small hospital tending toward poor work. I believe that the small hospital tends toward good work. Two small hospitals which I know, one in our town and one in another town, are doing good work, and instead of driving the physicians apart they are pulling them together. At one time no two physicians spoke to each other. To-day three of them own an automobile and all of them attend the meetings. Now the hospitals work together. In the other town the hospital has only been in operation one year and I can already see the benefit to that town of drawing the physicians together. If the hospital does separate physicians in a town it is because the physicians are at fault, not the hospital.

Dr. John N. E. Brown, Detroit: This discussion ought not to be closed without a protest against the remarks made or the impression given by two or three of the speakers who have been advocating the skyscraper hospital. Sir Henry Burdette, the greatest living authority on hospitals in England, after having given fifty years study to this subject, is advocating a hospital city. That is to say, he believes in taking all the sick outside the city and having them looked after there by doctors and nurses, where they will have the best chance of recovery.

I am of the opinion that the German system of construction is cheaper than that of this country. Most of these spread-out hospitals are built of a cheap brick covered with stucco on the outside, because the Germans have felt that in the course of twenty years from now it may be necessary, as has been the case in the last twenty or thirty years, to materially change the construction of hospitals.

One point that Mr. Stevens brought up was the admitting unit. He showed, in the Munich-Schwading Hospital, three rooms for the admission of patients. Of course, the practice varies in Germany. In the hospital in which we are interested we are just considering the problem of the admitting rooms. I noted with interest this morning in looking over the city hospital here that is just being built by Dr. Collins and Mr. Lamoreaux that they are making an admitting department which will accomodate thirty patients. These patients will be held there for twenty-four hours before being sent on into the hospital.

Then there is the matter of sink or utility rooms being placed near the entrance to the cross-corridor. I have found nurses objecting to that. They prefer the utility rooms somewhat more at the end of the corridor, especially in private-ward pavilions, so that they will not meet so many people coming to and from the hospital near the entry while carrying bed-pans. If the utility rooms were placed more remote from the center of the corridor it would be much better.

Then the question arose about putting the utility rooms, as shown in the Munich-Schwabing Hospital, on the north side of the ward. The query arises whether or not the sun is not as necessary in any utility room or diet-kitchen or servant's rooms as it is in the patient's bedroom. These rooms are subject to infection from bed-pans, dressings, and so on. We know that the sunlight in two hours will kill the pathogenic organisms, therefore why should we not place our utility room so as to get the effect of sunlight?

Dr. H. B. Howard, Boston: When you build the skyscraper hospital, there are two or three things that you must consider at first that were not mentioned by the speakers so far as I know. When you put a building fifteen stories high on the edge of your own lot you must recognize the fact that somebody across the street some day may put up another building just the same height. So it is not safe to build to any great height, except in the center of your own lot; then you will have the advantage of the street and the rest of your lot. It is not safe, then, to use the lower stories for patients. You will find that in the hospitals in which there are many stories the lower stories are used not for patients but for offices and for the business part and for the housing of the employees. When you get above the surrounding buildings you can count on sunlight for your patients. It is wrong in building hospitals many stories high to place the patients' rooms where they are not going to have the sunlight. In contagious wards the sun is needed more than in any other part of the building.

Mr. Richard E. Schmidt, Chicago: I do not agree with Mr. Lamoreaux that buildings become cheaper as you go up. You will readily see that the same floor load in a high building is carried over and over again on a column; the same floor panel in a sixteen-story building is carried one hundred and thirty-five times for the sixteen floors, whereas if it were only a one-story building it would only be carried once. The cost of the columns is consequently increased considerably. We know that two, three and four story masonry buildings in which the walls support the floors without the necessity of introducing skeleton construction can be built at prices ranging around twenty-five cents a cubic foot, and that a sixteen or twenty story building will cost almost twice as much.

High buildings are not cheaper than low buildings of the same capacity, for if cost of building became cheaper as the height of the building increased, there might be a point somewhere in the blue sky where the building would cost nothing.

I have noticed drafts in high office buildings, sometimes strong enough to blow papers from the table and slam doors when I could not find an open window. This has been especially noticeable on holidays when practically all of the windows were closed. At such times drafts in a high building will rise from the lowest floors and out at the top as through a chimney, and I found that an open door or window in a lower story and an open window in some remote place in an upper story would be sufficient to draw air through the building by circuitous passages. This appears to be positive proof that foul air will travel a much greater distance inside of a high building and subject more persons to its bad effects than can be the case in a low building.

Mr. L. A. Lamoreaux, Minneapolis: In regard to the cost of building, I think that when Mr. Schmidt has looked into this matter of construction he will quite agree with me. For example, in such buildings as the Johns Hopkins Hospital, in which they have but one floor and a high basement, the cost is as much, or even more, to build the basement as to build the hospital proper. Again the cost of additional land on which to spread out a hospital will more than offset the additional iron that is required to make the columns of a building strong enough to go higher. We are now building concrete office buildings here thirteen stories high that cost twenty-three cents per cubic foot and that will compare favorably in cost with a hospital building in which but half of the structure is used for hospital purposes.

SULPHURIC ETHER LAVAGE IN INFECTIONS: THE SOULIGOUX-MORESTIN METHOD

A PRELIMINARY CLINICAL REPORT OF THIRTY CASES TREATED BY THIS METHOD

GEORGE DeTARNOWSKY, M.D.
Surgeon to the Cook County and Ravenswood Hospitals
CHICAGO

Recently, while visiting the Paris clinics, my attention was called to the use of ether lavage of the peritoneal cavity in acute infections of the abdominal and pelvic viscera. Five of the municipal hospitals were using ether as a routine measure in all laparotomies. Morestin, surgeon to the Hôpital Tenon, reported his experiences with ether at a meeting of the Société de chirurgie, Feb. 12, 1913; Souligoux, surgeon to the Hôpital de la Charité, made a similar report Feb. 19, 1913, before the same society. On May 21, June 4 and Oct. 22, 1913, additional reports were sent in confirming the earlier experiences, not alone from Paris, but also from provincial hospitals.[1]

That the Societé de chirurgie should have discussed the same subject five times in nine months speaks for the interest aroused by this at first seemingly rather startling procedure. It was my privilege to watch the *modus operandi* of this lavage, and to observe the total absence of unfavorable sequelae. I began using ether in my abdominal operations in the latter part of August, 1913, on both private and charity patients. In a series of about thirty cases observed and recorded, the clinical results have been uniformly gratifying. Dr. Bissel, pathologist to Cook County Hospital, has undertaken an experimental study on animals which will appear in a later report.

Having used ether for the past eight years as a local disinfectant in the treatment of a large series of electric burns, I had already become firmly convinced that it had no deleterious effect on cell regeneration. It was therefore gratifying to find that Souligoux and Morestin, working independently, had not only arrived at the same conclusion, but, going a step further, had dared to use ether on serous surfaces.

HISTORIC EVOLUTION OF THE METHOD

I cannot do better than to quote Souligoux's own words. He said:

> I have used ether locally since 1891. At that time, while I was intern in the receiving-room, a man was brought in one day with both legs crushed by a heavy wagon. Both limbs were a mass of broken bones and torn tissues. I advised an immediate double amputation, which was energetically refused. Following this refusal, I cleansed the wounds the best I could with soap and water, poured an abundance of ether over them and placed both legs in plaster troughs (*gouttières*). To my utter surprise no infection occurred and the patient kept his legs.
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> From this time on I washed all wounds in ether and used ether in all superficial infections such as abscesses, lymphangitis erysipelas, etc. In my treatment of lymphangitis of the arm, for instance, I would wash the limb with soap and water, wrap around it gauze soaked in ether, and apply gutta-percha, cotton and bandages in order to minimize the evaporation. Several hundred cases have thus been treated with uniform satisfaction. I also, in 1891, experimentally used ether in the peritoneal cavities of guinea-pigs, without any ill effects, but did not dare experiment with man until last year.
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> In July, 1912, I was called to see a case of intestinal obstruction of eight days' standing. No feces or gas had been expelled for forty-eight hours. Examination revealed a complete rectal stenosis. The patient was in a condition of general peritonitis. I made an ileac incision, thinking to perform a Littré. On opening the peritoneal cavity there was free escape of gas and fecal matter. A median incision was then made and a perforation of the cecum found and closed. A general plastic peritonitis was present. Believing the patient to be moribund, remembering my experiences of 1891, and knowing that Morestin frequently used ether in abdominal operations, I poured an abundance of ether in the peritoneal cavity, carefully sponged it out and closed with two small drains. An inguinal colostomy completed the operation. The patient made a remarkable recovery, and since that time I have used ether in the presence of pus.

Up to Oct. 22, 1913, Dr. Souligoux and his associate, Dr. Marcelle, had reported thirty-six cases in which ether has been used as lavage. As much as 1 liter (quart) of ether has been poured into the peritoneal cavity "immersing the peritoneum in ether"; it is then swabbed out before the cavity is closed. In this series are 6 cases of ruptured tubal gestation, 17 cases of strangulated hernia, 3 cases of abdominal contusion with ruptured intestine, 1 rupture of stomach (ulcer) operated on twenty-seven hours after the rupture had occurred in the presence of general peritonitis, 3 cases of general peritonitis (origin not stated), etc. In this series two deaths are recorded, neither traceable to the use of ether.

Morestin's opinion is still more emphatic. He says:

> I have used ether since 1901 in peritoneal infections, either as a preventive disinfectant after suppurating salpingitis or in intestinal operations in which the bowel contents may have leaked, or as a curative method in grave cases of peritonitis due to (perforating) ulcers of the stomach or duodenum, or to acute appendicitis.

Auvray[2] reports the case of a man, aged 50, with a strangulated double inguinal hernia, with perforation of the intestine and general peritonitis. He closed the perforation, poured 1 liter of ether into the peritoneum, sponged it out and closed the incisions. He stated that he had never seen a patient, in similar serious condition, heal so rapidly. M. H. Toussaint[3] refers to the method as the *merveilleux lavage à l'éther.* Broca, Témoin and Patel (of Lyons) express themselves with equal enthusiasm.

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[1] Ann. de la Soc de Chir., Paris, Feb. 12, Feb. 19, Feb. 25, June 4, Oct. 22, 1913.

[2] Auvray: Semaine méd., May 21, 1913, p. 248.

[3] Toussaint and Morestin: Semaine méd., Oct. 22, 1913, p. 515.

One cannot help but see in this method a precious ally, and consider ether as the best antiseptic of the peritoneal cavity. While I do not wish to exaggerate the importance of this practice, it is interesting to call attention to it because it offers few inconveniences and does not necessitate special precautions.

TECHNIC

After removal of pathologic tissue, free pus is carefully wiped out; then ether is freely poured into the abdomen and is allowed to come in contact with all of the viscera in a case of general peritonitis. The viscera are literally washed in ether, hence the term "lavage" adopted by the French. As much as a quart of ether has been thus used. After having remained in contact with the abdominal organs for from two to five minutes, it is mopped out by means of gauze sponges and the abdomen is closed with one small drain. In circumscribed peritonitis, the pus cavity, having been wiped out, is filled with ether and the abdomen is closed without drainage. In pelvic peritonitis, ether-soaked sponges are applied to all involved surfaces and then two ounces of ether are poured into Douglas' pouch and the abdomen is closed without drainage. The immediate effect of ether, thus applied, is to cause a momentary capillary contraction followed by hyperemia of the viscera. There is a moderate formation of carbon dioxid in the abdomen, evidenced by a bubbling sound and the escape of bubbles from the surface of the ether. Ether is slowly absorbed by the serosa; this is proved by the fact that no change in the anesthesia of the patient has been reported to date.

In my first three or four private cases, I requested the anesthetist to stop giving ether for five minutes, after using it in the abdomen. This is unnecessary and has been discarded. The postoperative course is comparatively painless. Patients remain for from six to twelve hours in torpor, with slow, deep respirations and a strong, slow pulse. Postoperative emesis is less frequent.

Morestin emphatically declares that ether acts as a local antiseptic; that it does not damage the serosa, does not lead to the formation of adhesions and has a beneficial tonic and anesthetic action.

To the foregoing reports I can add the personal experience derived from a series of thirty cases with operation at the Cook County and Ravenswood hospitals since Aug. 25, 1913. There was no mortality in this series. There were three cases of gangrenous appendicitis with general peritonitis, four cases of localized abdominal peritonitis, two of pelvic peritonitis and one case of acute cholecystitis with adhesions in which the bactericidal value of ether lavage appeared convincing. The remaining cases, in which the presence of acute sepsis was not marked, were classed as suitable for the prophylactic use of ether. In 75 per cent. of all my cases the immediate postoperative pain and restlessness was certainly diminished; it was normal in the remaining 25 per cent. Contrary to Morestin's experience, a primary stage of excitement was noted in only one case, an interval operation for a retrocecal appendix with Jackson's membrane in which operation was performed at Cook County Hospital, Nov. 22, 1913 (Case 527784). This patient was mildly delirious for twelve hours, but otherwise made a normal recovery. In only three patients did I use any drainage; all three were cases of general peritonitis; the remaining ones were closed without drainage, 2 ounces of ether being left in the peritoneal cavity.

CONCLUSIONS

Clinically, so far as one may judge from the rather limited number of cases observed, the method is a beneficial one; no deleterious effects were observed, and, in my private cases, close personal observation convinced me that, after ether lavage, there was less pain and less emesis than is ordinarily encountered in laparotomies. That ether does not injure serous surfaces must be conceded. Souligoux satisfied himself on this point in 1891, but unfortunately did not publish the result of his observations; clinically, no adhesions have resulted from this method. Should the combined experimental and clinical results coincide, it would seem to me that ether lavage will have to be recognized as a valuable adjunct to our surgical technic.

31 North State Street.

AZOTURIA (DIABÈTE AZOTURIQUE)

ANTHONY BASSLER, M.D.
NEW YORK

Robert Willis[1] observed "a peculiar morbid state of the renal secretion characterized, not only by a considerable increase in the quantity of fluid elaborated, but a great increase in the quantity of urea it holds dissolved, in some cases to be permanent and habitual." To quote him further, "This is another of the morbid states that has been described under the name of diabetes or diabetes insipidus. I believe it to be the common precursor or recent inquiries have shown it to be the general attendant of mellitic diabetes, as well as the state into which that formidable disease passes under the influence of treatment of a certain kind." Although the preceding was advanced in 1838, practically nothing is known of the condition in America. The library of the New York Academy of Medicine does not contain mention of it in a work of any kind or even a reprint on the subject by an author in this country, and such as there is on hand, which is meager and scattered, has been contributed entirely by the French and English writers. When one considers the broadcast interest in metabolic disturbances in this country and the fact that these cases exist among us, this seems strange.

According to Allbutt and Rolleston,[2] the term "azoturia" was applied originally by Prout to a condition of urine characterized by the presence of urea in excess, though Prout did not distinguish between the increase of urea and the other solids. Although he pointed out that it often preceded diabetes mellitus, he obtained little clue otherwise to its nature or pathology.

After the contribution of Willis, the condition was studied by Falk, Bouchardet, Lancereaux, Bouchard, Lecorché, Lasègue and others, an excellent monograph on the subject being contributed by Demange[3] with a review of the publications dealing with the condition.

CLASSIFICATION

Robert Willis divided the cases of diabetes insipidus into three groups:

1. Cases of hydruria. Those attended with an excessive discharge of aqueous urine, in which the solid matters are hardly affected.

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[1] Willis, Robert: Urinary Diseases and Their Treatment. London, 1838, Section 3, p. 18.

[2] Allbutt and Rolleston: System of Medicine, Vol. iii, Diseases of Obscure Origin, London, 1909, p. 226.
Delaunay: Gaz. hebd. d. Sc. méd., April, 1913.

[3] Demange: Paris Thesis, 1898, Dechambre's Dictionary, Article on Azoturie.

2. Cases of anazoturia. Those attended with a copious discharge of urine with a deficiency of urea.
3. Cases of azoturia. Those in which the excessive discharge of urine was accompanied by a superabundance of urea.

The preceding classification recognizes azoturia as a subdivision of what has long been designated as diabetes insipidus, and it is now recognized with azoturic conditions that this classification has outlived its day and cannot be considered as important in this connection. The same may be said of Ballet's classification offered in his discussion of Mathiew's case of diabetes insipidus in an hysterical patient (simple polyuria, without azoturia or phosphaturia), namely:

1. Simple polyurias, with stigmata of degeneration (physical and psychical).
2. Simple polyurias, *with stigmata of hysteria*, without stigmata of degeneration.
3. Azoturic polyurias, with stigmata of hysteria.

These are the only classifications on record in which the term "azoturia" appears, and as a proof of their deficiency to cover the subject on hand may be mentioned the extreme yet more appropriate and descriptive term that the French have added, namely, *diabète azoturique.*

In so far as the strict azoturic conditions are concerned, and on the basis of my study of the condition, I would suggest the following classification:

1. Physiologic azoturia.
2. Azoturia simplex.
3. Azoturia gravis.

This eliminates the confusing term of diabetes to which the condition in its medical form may be considered somewhat allied, and gives to us terms applicable to practical medicine.

PHYSIOLOGIC AZOTURIA

For whatever reason an increased oxidation takes place in the tissues of the body, an increased output of the nitrogen-bearing substances in the urine is liable to occur. These include the effects of cold, excessive exercise, sometimes the emotions, physical pain, repeated pregnancies, prolonged digestion of protein foods and the like. While the term "physiologic" can hardly be applied, we can herewith also include those conditions in which an increased output of nitrogen in the urine accompanies certain abnormal states of the body, such as continued fever, some of the acute lesions and functional disturbances of the nervous system, physical pain, and so forth. These conditions are only relative, however, and need not be presented further.

AZOTURIA SIMPLEX

What characterizes this form of the condition is the absence or mildness of the constitutional symptoms, its more acute or limited course, the fact that polyuria is not present or only slightly so, and the output of urea and the phosphate only moderately above normal. It is found in both children and adults, but mostly the latter. Emotions, traumatism, suffering from painful affections and excessive indulgence in food and alcohol are factors in its production. Raymond reports a case lasting thirty-two days with recovery, in which the symptom of polyuria was 2.5 to 5.5 liters, with a daily output of 50 gm. of urea. One of these simple cases may, nevertheless, develop polyphagia, marked azoturia, polyuria and other symptoms, the condition gradually deepening into the grave form. Comby[4] reports such a progressive case with death in three months, but probably this was the grave form at the beginning. In the majority of the instances, however, if the condition has been recognized and treated properly, it subsides after some days or weeks of time, and a complete recovery takes place. Such milder cases are also seen in lesions of the brain and syphilis, and, as Bouchard has pointed out, in the course of diabetes mellitus, when it is an added, independent factor, rather than a related symptom.

It seems reasonable to assume that a long-standing condition of what in its course may be considered as physiologic azoturia may deepen into what is mentioned as azoturia simplex. Such a case may then intensify with the production of the prominent symptoms of the graver form and the issue close with death in the course of time. Like the manifestations of glucose in the urine in diabetes mellitus, the increased amount of nitrogen in azoturia may be more or less transitory at the start, then be more steady and larger in quantity and finally the constitutional symptoms of the condition develop, the case then being of the permanent and grave form. Thus it is that while the condition in its course may remain identical throughout in an individual case, a relationship between the different forms must be kept in mind as a possibility. What may be considered a case of azoturia simplex should make one hesitant in the prognosis, for, while the diagnosis of such a degree of the condition can only be fixed on the severity of the symptoms and the course under treatment, a progression may nevertheless take place. Fortunately, this is not so common as the continuation of a uniform degree.

AZOTURIA GRAVIS

This is the form to which I would particularly draw attention. It is found mostly in male adults of nervous temperament, between the ages of 40 and 45, and those suffering from lesions of the brain and spinal cord, syphilis, painful affections, long-continued use of alcohol and overindulgence in nitrogenous foods. Bouchard was enabled to demonstrate disturbance of the nervous system as the primary cause in three cases; one patient had concussion of the brain, and two cerebral tumors of syphilitic origin.

The primary symptoms are polyuria, polydipsia and especially polyphagia. The polyuria is the consequence of the polydipsia, and if the excess amount of the urea is swept out by fluids the organism defends itself by the polyphagia. There is a noticeable loss of flesh accompanying an exaggerated appetite and thirst. It is the prematurity of the emaciation in its striking course that should direct one to the suspicion of this condition and to the examination of the urine. The absence of sugar should then suggest making an estimation of the quantity of nitrogen or the urea-nitrogen at least. Complications, such as a certain resemblance or analogy with scurvy, various neuralgias, disturbance of the special senses and uremia may arise. Thirst is usually less severe than in diabetes mellitus. An exaggerated and constant loss of nitrogenous material (mostly represented as nitrogen in the urine) is always present. The condition is characterized by the general symptoms of polyuria, polydipsia, polyphagia, abundant sweating, loss of muscular strength, hemorrhages of the retina and vitreous, while in the end the appetite is impaired, emaciation becomes excessive and cachectic edema may make its appearance. Death results through this extreme malnutrition or by way of some complication to which phthisis and gangrene should be added.

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[4] Comby: Diabète azoturique; mort par complications pulmonaires, France méd., Paris, 1882, ii, 364.

The symptoms usually begin insidiously (but may be abrupt) with a feeling of languor and an unaccountable weariness, especially in the loins and thighs. The tongue is usually pasty and foul, and the edges of it red and irritable. In such an early case the increased craving for food may alternate with complete anorexia. As the case deepens, the gastric disturbance increases and the tendency to anorexia and thirst becomes more prominent. The weariness in the loins and legs is accompanied with actual pain usually on both sides, although it may be only in one loin and strongly simulate renal disturbance. Diarrhea may exist, which contributes to the malnutrition. Sexual impotence and nervous phenomena are usually prominent. Boils may appear, not the large ones of diabetes mellitus, but those of the size of a hempseed with inflamed bases and yellow heads; these come in crops. The skin becomes harsh, dry, and wrinkled from the loss of adipose tissue. It is at this stage that the suspicion of diabetes mellitus becomes keen, and a more thorough examination of the urine is made and the excess of urea with the absence of sugar detected. Toward the end, the respirations become difficult, the pulse weak, and death may occur in the course of the complications.

The disease may take several years to reach its end, and an interesting feature is that near it the azoturia diminishes and may even drop below normal. The principal symptom on which the diagnosis is made is the azoturia, which requires an examination of the urine. The large amount of urea present explains the thirst which is the necessity to dissolve the urea to flush the tissues.

At this point the pathology of the condition may be taken up. There are two main theories. First is a disturbance of the nervous system, and second a disturbance of the liver function. The first cannot be argued away safely, because in most of the cases it is present. This is also suggested in the emotional cases, concussion of the brain, and cerebral tumors of syphilitic origin. Lamy suggests the possibility of a circumscribed area in the floor of the fourth ventricle as a cause.

Just why it is that these cases are encountered in well-to-do men leading sedentary, busy, anxious lives, who for the most part live neither wisely nor well, is not known, but there is no doubt that this strongly suggests some metabolic cause, and the condition continuing, the nervous phenomena ensue, the azoturia not being suspected. This leads us to the second metabolic theory, and some good argument may be presented in favor of it. It is unfortunate that the chemistry of the tissues in the production of urea from its intermediate products is not well understood. Lecorché, with Bouchard, believed that the excess of urea comes from the tissues which are consumed by faulty assimilation and not from the foods. Difficulty arises in regard to the why and wherefore of this nutritional disturbance, and, although the action of the nervous system may be the probable cause, it remains to be shown how it acts. Allbutt suggests that while the pathology of the disorder is by no means clear, it appears to be due to increased metamorphosis of the tissues rather than to protein food. This is suggested in that while a restriction of the protein food effects a certain reducing of the amount of urea, the result is never considerable, and, of couse, a purely carbohydrate diet has very little influence in restricting the amount of urea.

With the knowledge of the activity of the liver in the chemical transformation of certain substances and particularly toward the rapid elimination of materials which cannot be utilized, especially the nitrogen radicles derived from the excess of protein foods, one's interest in the rôle of the liver in this connection as influencing nitrogen metabolism is immediately aroused. It is now generally accepted that the albuminoids with the carbohydrates and fats are utilized in the formation of glucose, and it is a suspicion of mine that in the transformation of the products elaborated in the stomach and intestines into substances which pass into the blood for liver regulation, storage and elaboration, the most plausible theory for the condition exists. Richet illustrates: "With the exception of the action of the fibrin, the coagulability of the blood and the uropoietic function, not much can be said of the action of the liver on nitrogenous substances." We are still arguing the disputed theory of the proteins of the serum being synthetically formed by the intestinal mucous membrane from the nitrogen products derived through digestion, which is a direct contradiction to the existence of a nitrogen function of the liver. One is not inclined to agree with Abderhalden in this theory, because it implies a refutation of the chemical transmutation in the formation of urea and the splitting up of the ammonia contents by the liver to bring this about. It is further confusing when one considers that the alimentary albumins are subjected successively to different proteolytic ferments before they are broken up into amino-acids. Delaunay seems to have shown that the amino-acids are not utilized in the synthetic formation of the albumin of the blood-serum by the intestinal mucosa, but pass directly into the portal vein and are carried into the liver as hexoses. The liver probably then plays a triple rôle in its action on these hexoses. It decomposes the amino-acids not utilized by the organism, either because they are not easily absorbed or because they are formed in excess. The amino-acids are thus transformed into urea and ammonia. The carbon radicles, on the contrary, which present a source of energy, are utilized. Whether or not the liver tissue stores up any quantity of amino-acids for fasting periods, is still somewhat of a question, but there is now a strong reason to believe that it does send quantities of amino-acids into the circulation to be utilized by the tissues, and that in so far as the amino-acids in the blood are concerned, the liver regulates it as it does the carbohydrate radicles.

To bring these few facts together in an etiologic way in connection with the subject, we can all agree that in disease of the liver, amino-acids are frequently removed in the urine; in fact, this is one of the surest signs of hepatic insufficiency. Adding to this the analyses of such matter as I know of pertaining to the subject, I am strongly inclined to believe that the condition is hepatic in origin in which the pancreas also plays an important part, because we know that the pancreas has to do with transformation of the nitrogen bodies as well as the carbohydrates.

The diagnosis is made by the examination of the urine, for which a twenty-four-hour specimen is required. The amount excreted is usually about 5 liters, sometimes running as high as 20 liters. The urine is of a light or dark color, of a very pronounced acidity, and the specific gravity often exceeds 1,040 or even 1,050. A feature of the urine is its promptly acquiring an ammoniacal odor caused by the large amount of nitrogen-bearing substances being broken down by bacteria. The chemical analyses disclose an absence of glucose and albumin, although an albuminuria of a low degree may exist in the beginning.

When the specific gravity is low, between 1.002 and 1.010 for instance, the diagnosis of diabetes insipidus is suggested, while, of course, when glucose is present, the diagnosis of diabetes mellitus is in order. A point to remember is that in nephritic polyuria one always has an albuminuria with casts together with cardiac disturbances, and the manifold manifestations of arteriosclerosis and uremia. Usually in the azoturic conditions the quantity of urine increases during the day, and at intervals of some hours after the meals; the latter depends on the character of foods eaten.

The main feature of the urine is the azoturia present, this meaning an excess of urea, uric acid, and nitrogenous extractive substances. In the course of twenty-four hours the urea output is between 40 and 150 gm. (normal amount, 25 gm., although lately this has been considered too high, and 16 gm. is now considered as the upper amount), the uric acid reaches 9 gm. (normal amount, 0.7 gm.), the nitrogenous extractives of creatinin and uroxanthin reach and exceed 70 gm. The excess also involves the chlorids and phosphates, the first of which may be between 15 and 30 gm. (normal amount, 13 gm.), and the latter represented in phosphoric acid from 5 to 6 gm. (normal amount, 3 gm.). In the absence of facilities to make the nitrogen partition, urea may be taken as the diagnostic index of the condition. Of course, the accurate methods of analyses of Mörner-Sjöqvist and that of Folin are advised, but when these are not practical, the ordinary urinometer multiplying the quantity of nitrogen obtained from 1 c.c. by the number of cubic centimeters of urine voided is sufficient for clinical purposes. The presence of a moderately increased amount of urea suggests the simple form, while the presence of a large amount with the characteristic general symptoms suggests the grave form. The Ehrlich aldehyd reaction, which is uniformly positive, should also be noted. It is advised in all cases of diabetes mellitus, phosphatic diabetes and even diabetes insipidus, that urea estimations be made, because the case may be a combination one, and when present with glucose it is much more serious. At this point it may be mentioned that while mellitic diabetes cases are common, phosphoric diabetes, or better phosphaturia, is less common, and azoturic diabetes, or better the forms as I have classified them, the rarest of all. It is important to keep in mind that azoturia may exist with diabetes mellitus, in which instance the prognosis is much worse than it would be when either condition exists alone.

The treatment suggests that more urea estimations of urine should be made in a general routine way, for by it all cases of the simpler forms would be suspected early enough and successfully treated. The condition established, the treatment is a judicious management to prevent further mischief. An absence from work is essential, and a sojourn in the country may be sufficient for the simpler forms without further treatment. The patient should arise late and go to bed early so as to soothe the nervous system. In order to limit the loss of urea the avoidance of movements and fatigue must be recommended. The bowels should be kept well opened, and a tepid sea-water shower or bath and a good toweling has been recommended by Ralfe. While care must be exercised not to let the temperature be too low, it is important not to let the patients be relaxed by overheated rooms or clothes which are too heavy.

While on the one hand it seems advisable to influence the amount of nitrogen in foods, on the other, it has not been so practical as placing the patient on a general diet. The main point in the dietetic treatment is not so much to control the nitrogenous element as to control all quantities of food so that the tissues are not oversupplied and the patient still is well enough nourished. This plan controls the general symptoms as well as the urinary ones, but is somewhat short in the repair of the loss of tissue, but if the patient recovers sufficiently, it is warranted to increase the quantities of nitrogen as well as the carbohydrates and fats — this means more food.

Some difference of opinion exists as to the value of different drugs, although most authorities agree that valerian answers the best purpose. Bouchard employed it with good results in the form of the extract in gradually increasing doses, beginning with 8 gm. in fractional doses during the day, and increasing rapidly to 20 to 30 gm. in twenty-four hours. Others recommend the use of arsenic, potassium bromid, belladonna and hyoscyamus. It is probable, however, that the best are valerian, opium and arsenic.

The prognosis in the various forms mentioned is according to the degree, the length of time the condition has been standing, and presence of complications. When properly treated all of the cases of the simple form are cured, while in most of those of the grave form the patients are relieved of their symptoms so that they can continue a number of years of life. In the presence of complications, however, but little could be expected. This means an extreme extent of breaking down of tissues and usually marks the threshold of the end.

21 West Seventy-Fourth Street.

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THE TREATMENT OF PELLAGRA

AN OPTIMISTIC SURVEY OF ITS PRESENT STATUS

GEORGE M. NILES, M.D.
ATLANTA, GA.

It is admitted at the outset of this study that the etiology of pellagra is unknown. The antizeists, or those who do not believe in Lombroso's theory of a toxic cause existing in spoiled corn, corn products, or perhaps carbohydrates, seem to be somewhat in the ascendancy just now, though there are certain historic and sociologic facts that have not been disproved which link together pellagra and maize. The theory that the disease was produced by the ingestion of semidrying edible oils progressed only to the nebulous stage, and then apparently vanished into thin air. Sambon has practically forsaken his hypothesis concerning the *Simulium reptans,* and at present the accusing finger of the Thompson-McFadden Commission for the Study of Pellagra seems to be pointing toward the *Stomorys calcitrans,* or stable-fly.

No constant or distinctive pathologic changes have been noted in this disease, though the complex of symptoms seems to rest on certain trophoneuroses similar to the degenerations incident to senility.

Many earnest research workers are investigating this problem, and its early solution is hoped for. Meanwhile, the pellagrins are clamoring for therapeutic relief; and the wavering theorist, who hesitates to minister to these sufferers because not all these etiologic and pathologic inquiries are clearly answered as yet, as well as the dismal pessimists who can see nothing of light ahead — these should exercise their doubtful talents in other fields, leaving the warfare to the resolute and courageous spirits who are willing to fight, even if much of the battle-field is as yet shrouded in darkness. Malaria was treated with a measure of success before Laveran demonstrated the *Plasmodium malariae,* and bacillary dysentery was fairly well managed before Shiga determined the cause. The treatment herein advanced, embodying suggestions from several observers of recognized standing, and built on my own experience in the care of over six hundred cases, is yielding satisfactory results and rests on the four basic supports of hygiene, diet, drugs and hydrotherapy, buttressed with a hopeful and helpful psychotherapy.

HYGIENE

The hygiene of pellagra is similar to that of other exhausting diseases, with two exceptions. The first is that alcoholic beverages in any amount seem to be highly detrimental. While an occasional alcoholic stimulant may be of questionable aid in conditions of extreme weakness, I would hesitate to give a favorable prognosis to any pellagrin of convivial habits. I make this statement confidently, though it is at variance with the opinion of an estimable medical friend. The second exceptional hygienic precaution is that sunlight, direct or reflected, should be avoided during the spring and summer months; and danger also lies in becoming overheated. The actinic rays have a peculiarly irritating effect on the skin of pellagrins, which is seemingly most marked in early spring. Exposure to these rays or to radiant heat from a stove or furnace will, in a pellagrin, bring out an erythema, or will renew one that has been apparently healed. Pellagra flourishes in hot weather and subsides in cold: consequently the sufferers fare much better if they can keep in a cool environment.

DIET

In the diet, I prohibit corn-bread and corn products, unless I know positively that the corn is fresh and has undergone no "heating." Until the "zeist" theory is thoroughly disproved, we owe our pellagrins this precautionary measure.

As to other dietetic measures, we should remember that in this malady the gastro-intestinal manifestations are the expression not of a disease primarily localized in that tract, but of a centralized irritation, plus the effect of toxins eliminated through the gastro-intestinal mucosa. As demonstrated by me four years ago, the early diarrhea is mainly of central origin, and to some extent compensatory. It therefore does not require a too limited regimen, nor does such seem to aid the disordered bowels. Woody vegetables and those yielding a large amount of residue are mechanically contraindicated at any time diarrhea is present, but care should be taken to replace them with other nourishing food. I have also demonstrated that the flesh proteins are especially well borne. Tender broiled steak, roast beef or mutton may be allowed once or twice daily; or, if the mouth is too sore to allow chewing, beef or white meats, either scraped or ground, may be substituted. Eggs are generally permissible, though it is well to use only the whites if flatulence exists.

Sweet milk is valuable when it agrees with the patient, though it rather often causes flatulence and distress. The practice of advising the daily consumption of immoderate amounts of milk and eggs, without determining the digestive ability of the patient, is reprehensible and unscientific. Fresh or artificially soured buttermilk is nearly always suitable.

When constipation is present, oatmeal, tender vegetable purées, thoroughly baked Irish (not sweet) potatoes, or cereals with little sugar, will aid intestinal peristalsis. During the whole course of pellagra the invalid must be nourished to the limit of assimilation, and it will generally be found that the gastro-intestinal tract in this disease will bear and care for more aliment than when similarly inflamed from other disorders.

DRUGS AND HYDROTHERAPEUTIC MEASURES

Hypodermically, I use the ampules of iron arsenite solution (16 minims) and sodium cacodylate solution (3/4 grain of the salt), on alternate days, injecting them under careful aseptic precautions, and giving one daily for about two weeks. After that I give an ampule every other day, still alternating the ampules. After the acute symptoms seem to be controlled, I continue giving two injections weekly (still alternating the ampules) for several months. Sometimes, when the patient is anemic and quite nervous, I substitute for the two previously-mentioned ampules the ampules of the green citrate of iron (1 c.c.) and glycerophosphate compound (1 c.c.), alternating as before. I never use the large doses of sodium cacodylate.

Internally, I employ a combination of saturated solution of potassium iodid and Fowler's solution, in the proportion of five of the first to three of the second. Beginning with 5 drops in water, three times daily after meals, the dose should be increased one drop each day, until symptoms of arsenical saturation are manifested. This generally appears when 20 or 30 drops are being taken. When there is puffiness about the eyes on arising, I stop the drops for two days, beginning again at the minimum dose of 5 drops, and increasing as before. This procedure I continue until the eruption and sore mouth are abated, and then continue it in 8- or 10-drop doses for several months. Should there arise a gastric or intestinal intolerance, which is occasional complication, it may be necessary to reduce the proportion of Fowler's solution to one or two in eight parts, instead of three.

For the frequent diarrhea I have obtained satisfaction from bismuth betanaphtol and resorcin, with milk of bismuth as a vehicle. This failing, I give 15 grains of tannigen after each loose action, or, as a last resort, powdered opium. I have also found useful a colonic injection on alternate days of plain coal-oil (kerosene oil). One pint should be injected, with the patient in the knee-chest position, and allowed to remain from a quarter to three-quarters of an hour. Two to four injections are usually sufficient.

For the infrequent constipation, either castor oil, liquid petrolatum, phenolphthalein or enemas will serve, drastic cathartics being inadmissible.

For the sore mouth, a solution of thymol, 1 grain to the ounce of water, a little alcohol being used as a solvent, will generally prove sufficient; or a 25 per cent. solution of boroglycerin. For the stomatitis and glossitis, a daily application of a silver nitrate solution (20 grains to the ounce of water) is in most instances efficacious.

I have ceased stomach lavage, except in rare instances, when a great excess of sticky mucus constantly arises.

The simple erythematous rashes or even the sloughing conditions in the hands and feet may be benefited or cured by the bland ointments, such as zinc oxid, or a 5 per cent. boric acid. Raw or weeping surfaces are soothed by a lotion of calamine and zinc oxid in lime-water, to which may be added a little rose-water or other pleasant adjuvant.

For the intense burning in the hands and feet, so often and bitterly complained of, either ice-cold compresses of a mild solution of mercuric chlorid, phenol (carbolic acid), 60 grains to the pint, applied at frequent intervals to the unbroken skin, or baths of hot mustard water are indicated. Two- or 3-grain doses of acetanilid, or 5-grain doses of acetylsalicylic acid, when the heart action is fairly good, will greatly relieve the neuralgic pains, while brisk rubbing with petrolatum to which has been added capsicum or menthol is advisable for the pseudorheumatic pains in many joints and muscles.

After the erythema has subsided, leaving a rough and harsh surface, alcohol rubs at frequent intervals will facilitate the disappearance of this horny layer. I do not favor salvarsan.

Transfusion of blood from either healthy donors or healed pellagrins is still an available method in selected cases, but its difficult technic and other obstacles will probably prevent its general employment. Drainage of the gall-bladder, appendicostomy and other surgical measures have their advocates, but are seldom, if ever, really expedient.

Special treatment of the purely mental symptoms cannot be covered here. Should such symptoms predominate, deepening into melancholia, or lapsing into dementia, the patients should be placed in an institution for the mentally sick, as it is unwise, because of their varying or suicidal moods, to attempt their care at home.

Hydrotherapy has in many instances proved so beneficial in pellagra that some form of it, such as hot or cold baths, simple or medicated douching, packs, moist or dry rubs, accompanied by special massage, may be employed in nearly every case. Increased oxidation of the tissues, more rapid elimination, greater metabolic activity, sharpened appetite, improved digestion and assimilation, and a noticeable tonic effect on the whole living organism follow their use.

PSYCHOTHERAPY

Just now, when a wide-spread pellagraphobia prevails, when the unhappy victim finds most hospitals, hotels and boarding-houses closed to him, and many nurses unwilling to attend him, can we wonder that the knowledge of its presence carries distress of mind? Much of the fear of this disease is due to unwise words of physicians, perhaps lightly spoken, but deeply impressive and harmful to the already perturbed pellagrin. It is wrong for the physician, in any way, to add to the anxiety of the patient, and every legitimate effort should be used to encourage and cheer him. He should be assured that he does not endanger his family and friends, that many cases are permanently cured, and that energy and perseverance on his part will greatly brighten his prospects. Though pellagra is always a grave malady, an unfavorable prognosis, except in extreme cases, should not be hastily given.

"Apparently some regenerations may take place in diseased organs of highly organized type, if the patient's condition is kept up to the highest point of nutritive efficiency" (Walsh). I have in mind a young woman who has been well for over two years, but whose condition at one time seemed to be hopeless; and this taught me a salutary lesson. Certain compensatory influences may be begun and continued by drugs and other material aids, but more often they are hastened by conserving the bodily and mental tone during the prolonged period that Nature demands in which to educate new centers and adapt herself to the loss of others.

I have in several instances seen pronounced psychoneuroses seemingly arise from discouragement, from the sluggish conditions which develop in the bodies as a result of lack of hope, and from the refusal to take air and exercise which accompanies despair. In pellagra, as in many other complicated diseases, many intercurrent ills arise at frequent intervals. Many of these can be promptly alleviated, and a much more sanguine frame of mind may be induced even if the main lesion is untouched. As one writer has well said, "Though nothing can be done for the disease, much can be done for the patient." In such conditions the Eddyites, the mental healers, and the quacks get their occasional spectacular results.

The belief is reasonable that by suitable suggestions we can delay, if not arrest, nerve degeneration, for a buoyant body and hopeful mind present a firmer bulwark against cellular destruction. Therefore, while recognizing the easily managed intercurrent ills and promoting comfort, the physician and those around the patient should try to inspire courage and optimism in him, so that the higher psychic centers may exert their untrammeled influence over the lower centers.

PROGNOSIS

My experience in the treatment of over six hundred cases has taught me that there are four classes in which the prognosis should be extremely guarded: persons over 50 years of age; alcoholics; patients with marked mental symptoms, evidencing greatly damaged nerve centers, and those intellectual weaklings who capriciously veer from one plan of treatment to another.

On the other hand, if the patient is under 50, and has sufficient intelligence and perseverance to adhere to a fixed line of treatment, and will faithfully cooperate with the physician, a permanent cure may be expected in the majority of cases.

920 Candler Building.

Athletics and Cardiac Hypertrophy.—From the data presented it is clear, I think, that severe athletic contests cause marked cardiac hypertrophy in individuals who are strong enough to take part in them. The cardiac hypertrophy gives greater capacity to stand prolonged severe muscular exertion, but is usually associated with some signs of functional disturbances. About the ultimate result in the life of the individual of an athletic heart acquired in youth we know little. For ordinary vocations and avocations an overlarge heart can be of little use. Unless it is kept exercised it will assuredly undergo detrimental retrograde metamorphosis. Furthermore, most pathologists believe that the musculature of a hypertrophied heart is always somewhat diseased and less resistant than that of the normal heart. The degree of myocarditis varies in different individuals.—C. R. Bardeen, M.D., *Wisconsin Med. Jour.*

THE PLAGUE OUTBREAK IN PORTO RICO

S. B. GRUBBS, A.B., M.D.
Surgeon, United States Public Health Service
PROVIDENCE, R. I.

On June 15, 1912, bubonic plague was discovered in Puerta de Tierra, a squalid district outside the old walls of San Juan, Porto Rico. The positive diagnosis was made three days after the first cases were found and so reported to the acting governor by the assistant director of health and the representative of the United States Public Health Service. The governor promptly proclaimed the existence of plague, thus making a record of promptness and honesty.

As was natural, a panic ensued, and the roads leading from San Juan were filled with all manner of vehicles rushing away, many not knowing where. All supposed that a quarantine would be imposed and that no one would be allowed to leave the city, which accounts for much of the rush to be away. Indeed, many in high office strongly urged military cordons, and burning of the districts in which cases occurred, radical measures both useless and severe, which the calmer minds successfully opposed. While the panic was expending itself, those who remained at home, having been instructed to clean up, began throwing their rubbish into the streets, revealing enormous stores of hidden junk and trash. No one imagined that behind those nicely painted walls were such quantities of waste material. The streets were almost impassable within a few hours, although every wagon and cart that could be hired was at work, and every motor-truck was working night and day. This continued for nearly a week, while on the open lots several bonfires, covering a quarter of an acre each, burned day and night. Sixty large motor-trucks of this stuff in one night were taken from old San Juan, which has about 15,000 inhabitants. Seven truck-loads of rubbish were taken from one house, and so on, until one wondered where it all came from and if it would ever end; but both the fright and the fires did finally diminish, so that at the end of a week people were coming sheepishly back, and the expert sent by the United States Public Health Service was quietly at work on the eradication and prevention of spread of the disease, while the Department of Sanitation of the island was caring for the sick.

Bubonic plague is a disease carried by rats and but rarely transmitted by human beings, so the work of eradication was done by killing rats, improving buildings so that they would be poor rat harbors, and by preventing the rats from traveling to other places. The quarantining of persons, the restriction of travel and commerce, spectacular but ineffective methods against this disease, were not used. The business-like and scientific methods employed were productive of a result both brilliant and gratifying, for in ninety-two days after the first case was discovered the disease was over, and although rat-proofing, and the catching and examination of rats still goes on, there is no plague in San Juan, either in human beings or in rats. In all, there were fifty-six cases with thirty-six deaths from this disease in Porto Rico.

Where did the plague come from and how did it reach the island of Porto Rico? While busy with suppressive measures and in preventing the disease from going to other points of the island and to the United States, this was what the quarantine authorities were constantly asking themselves. There is and has been for several years bubonic plague in Venezuela, and the people naturally considered this the source. The United States Public Health Service officers, although admitting that no quarantine restrictions that do not absolutely stop commerce can give absolute protection, did not believe that Venezuela was to blame. They knew that the Public Health Service keeps an officer in Venezuela, who personally watches the ships that are to sail for Porto Rico, who goes on each one from port to port and fumigates each vessel before she sails. They knew that these vessels were constantly watched at San Juan, so that while commerce moved with but little hindrance, the chances of any Venezuelan rat landing in Porto Rico was exceedingly small. It was consequently believed that plague infected rats had come from some place where the disease was not recognized or where its existence was denied.

Many ports were suspected only to be vindicated, until Dr. Juan Guiteras, formerly an officer of the United States Public Health Service, and now director of health of Cuba, suggested the Canary Islands as a possible source, saying that five or six years ago there was an epidemic in Santa Cruz de Teneriffe, which some said was plague. As it is well known that epidemics of human plague will subside and become endemic, existing in rats for years, unless intelligently and persistently combated, the time elapsed was no argument against this theory, so an investigation was made with the result that it may now be said that in all probability plague came to Porto Rico from the Canary Islands.

Not only have many disinterested persons testified to the existence of plague in Santa Cruz, but no less a person than Dr. L. Comenge, royal delegate to investigate the epidemic in that city in 1906-1907, made a report to the Spanish government in which he states that the disease was plague and that it existed in rats and human beings, sixty-nine persons being stricken. He also reports that while knowing it to be plague he suppressed this knowledge, apparently believing that the tranquillity and commerce of the Canary Islands was more important than the health of the world. In this policy of suppression the authorities to whom the report was submitted must have agreed, for the report was not made public or the presence of the disease announced.

There is, however, other interesting evidence. About two weeks after the discovery of plague in San Juan, a case was discovered in Havana, Cuba, then another and another, in all three and then no more, bespeaking both a light infection and brilliant work. The Atlantic and Gulf coast ports began to put themselves in order and to catch and examine rats, with the result that one infected rat was found in New Orleans, so that the warning from Porto Rico saved that port and probably many more. Then there was some plague among the rats in Liverpool, and that was stopped in time. There is evidently some connection between these events, for the steamers of one of the Spanish lines after making many Spanish ports, one of the last being Santa Cruz de Teneriffe, where they take onions and potatoes in crates and baskets, go direct to San Juan (plague June 15, 1912), next they go to Havana, Cuba (plague July 4, 1912), next to New Orleans (plague-rat found July 27, 1912), and then some of these steamers go to Liverpool (plague-rats found August 1 and 30, 1912). This evidence is circumstantial, but with the knowledge that plague existed in Santa Cruz de Teneriffe in 1906 and 1907, the conclusion is evident that plague came to San Juan, Porto Rico, carried by a rat from Santa Cruz, on a Spanish steamer, probably in a crate of onions or potatoes, and that the same line of steamers that brought the disease to Porto Rico carried it on to Havana and probably to New Orleans.

Quarantine is at best a compromise that tries to give the greatest amount of protection with the least amount of obstruction. It must rely on information as to the health of other places, and when such information is false, a non-prohibitory quarantine is powerless.

Honesty and fair dealing in questions of epidemic diseases is necessary if international sanitation is to advance, and if such histories as those of plague in Porto Rico and Cuba are not to be repeated.

IS THERE A TOXEMIA REFERABLE TO THE EATING OF CHESTNUTS?

THEODORE C. MERRILL, M.D.
WASHINGTON, D. C.

This paper is offered in order to suggest the possibility implied in the title, and to elicit any comment which its publication may induce. In fact, such comment is invited. Search in the literature has thus far been barren of reference, yet it may be that such reference has been overlooked, or that some physicians have knowledge of conditions occurring as in the present account. During the months of October and November, 1913, numerous newspaper reports called attention to cases of sickness and death alleged to be due to the eating of chestnuts obtained from blighted trees. These cases were reported from Hartford, Conn., and vicinity, from a town in New Jersey, from several places in Massachusetts, and from a point in New Hampshire. I undertook investigation with a view to ascertaining the facts giving rise to the reports. The results of the study are here set forth.

PRELIMINARY CONSIDERATIONS

1. *In Healthy Chestnut Trees.*—The fruit (so-called nut) of the healthy tree is not supposed to be toxic. Germination, however, is remarkable for chemical (enzymic) activity, and it should not be forgotten that at this period liberation of toxic substances may not be impossible. Analogy is seen in the instance of growing sorghum, hydrocyanic acid compounds appearing in the immature plant. Hydrocyanic acid compounds, nitrobenzene or toxalbumins may not reasonably be imagined as being possibly present in germinating chestnuts; whether they are in fact present or absent has not been determined.

A period of unusually warm, dry weather in the fall, followed, at the time of chestnut maturity, by copious rains, tends to induce germination in the nuts while still on the trees and after they fall to the ground. Such germinating chestnuts, though healthy, cannot

TABULATION OF CASE-CHARACTERISTICS

Characteristics	Cases																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Locality	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	†	‡	§
Age	3½	6	32	45?	17	63	4½	21	28	20+	20+	6	5	9	13	7	14	11	3	7	11
Sex	M.	M.	F.	M.	M.	F.	M.	F.	F.	F.	F.	M.	M.	M.	M.	F.	M.	M.	M.	F.	M.
Moderate fever	+	+	—	..	..	—	..	—	—	—	—	+	+	+	+	+	+	+	+¶	—	—
High fever	—	—	+	..	..	—	..	—	—	—	—	—	—	—	—	—	—	—	+‖	+	+
Chill	—	—	+	—	..	—	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Abdominal cramps	+	+	+	+	+	+	..	..	—	+	..	—	—	—	—	—	—	—	—	—	—
Diarrhea	+	+	+	+	..	+	..	—	+	+	—	—	—	—	—	—	—	—	—	+	—
Blood in stool	+	+	+	..	..	+	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Negative abdomen	+	+	+	..	..	+	..	+	+	+	+	+	..	+	..	..	..	..	..	+	+
Constipation	—	—	—	—	..	—	..	+	—	—	+	+	+	+	+	+	+	+	+	—	—
Pain in left stomach	—	—	—	..	..	—	..	—	+	+	+	—	—	+	+	+	+	+	—	—	—
Vomiting	+	+	—	+	..	+	..	+	—	+	+	+	+	..	..	..	..	..	—	+	+
Nausea only	—	—	—	—	..	—	**	—	—	—	—	—	—	+	+	+	+	+	—	—	—
Pulselessness	—	+	+	—	—	—	**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Full, slow pulse	—	—	—	..	..	..	**	..	..	—	—	—	..	+	+	+	+	+	..	—	—
Rapid heart	..	..	+	..	..	..	**	—	—	—	—	..	—	—	—	—	—	—	—	+	+
Pallor	+	+	+	..	..	..	**	—	—	—	—	..	—	—	—	—	—	—	—	—	—
Cyanosis	..	—	+	..	..	..	**	—	—	—	—	+	—	—	—	—	—	—	—	—	—
Slight urinary decrease	—	—	—	..	..	—	**	—	—	—	—	+	—	—	—	—	—	—	+	—	—
Air-hunger	—	—	+	..	..	—	**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cutaneous eruption	—	—	—	—	—	—	**	—	—	—	—	—	—	—	—	—	—	—	—	—	+
Oral herpes, ulcerative	—	—	—	..	..	—	**	—	—	—	—	—	—	—	—	—	—	—	+	—	+
Headache	—	..	—	..	..	—	**	—	—	—	..	—	—	—	—	—	—	—	—	—	+
Soreness to touch	—	—	+	..	..	—	**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pain in limbs	—	—	—	..	..	—	**	—	—	—	—	—	—	—	—	—	—	—	+	—	—
Vertigo	..	..	—	..	..	..	**	+	..	+	+	..	—	—	—	—	—	—	—	—	—
Drowsiness	—	—	—	..	..	—	**	—	—	—	—	+	+	—	—	—	—	—	+	—	—
Stupor	..	..	—	—	—	—	**	—	—	—	—	+	+	—	—	—	—	—	—	—	—
Restlessness	+	+	+	..	..	—	**	—	—	—	—	—	—	—	—	—	—	—	+	—	+
Convulsions	—	—	—	—	—	—	..	—	—	—	—	+	—	—	—	—	—	—	—	+	—
Delirium	—	+	—	—	—	—	..	—	—	—	—	+	—	—	—	—	—	—	—	—	+
Paralysis (legs)	—	—	—	—	—	—	..	—	—	—	—	..	—	—	—	—	—	—	+	—	—
Coma	+	+	—	—	—	—	..	—	—	—	—	+	—	—	—	—	—	—	—	+	—
Prodromal fatigue	—	—	—	—	—	—	..	—	—	—	—	+	+	+	+	+	+	+	+	—	—
Great prostration	+	+	+	..	..	+	..	+	+	+	..	+	+	+	+	+	+	+	—	+	..
Sweating	—	—	—	..	..	—	..	—	+	—	—	+	—	—	—	—	—	—	+	—	—
Sunken eyes	..	+	..	..	..	..	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diagnosed toxemia	+	+	+	..	..	+	..	..	..	..	..	+	..	+	+	+	+	+	..	+	+
Death	+	+	+	—	—	—	—	—	—	—	—	+	—	—	—	—	—	—	—	—	—
Slow recovery	—	—	—	+	+	+	+	+	+	+	+	—	+	+	+	+	+	+	+	+	+
Raw nuts, blighted trees	+	+	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Raw nuts (blight?)	..	..	..	+	+	..	..	+	..	+	+	+	+	+	+	+	+	+	+	+	+
Boiled nuts (blight?)	..	..	..	..	..	+	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..

Plus signs indicate ascertained positive information, minus signs ascertained negative information, and blank spaces absence of information. * Connecticut. † New Jersey. ‡ Massachusetts. § New Hampshire. ¶ Late. ‖ Early. ** Gastro-enteritis—chestnuts undetermined.

be considered as decisively free from substances toxic, as above indicated.

2. *In Unhealthy Chestnut Trees.*—The chestnut bark disease, or so-called "blight," whose spread is now extensive and destructive in the New England States, New York, Pennsylvania, New Jersey and other states comprising the eastern portion of the chestnut range, is due to infection of the bark by a fungus (an ascomycete) called *Endothia parasitica,* or, formerly, *Diaporthe parasitica.*

The fungus infects by lodgment of spores in a wound or wounds occurring in the bark, the mycelium spreading circumferentially so as finally to girdle the infected twig, branch or trunk. The mycelial development interferes with nutrition in the part attacked, so that, when girdling is complete, or nearly so, structures distal to the lesion die.

While infection of the nut, directly by implantation of the fungus, has been noticed, such infection appears to be rare; moreover, nuts obviously infected are not likely to be eaten. Influences affecting the edible portion of the nut should occur by alteration of nutrition, as induced by the mycelial growth in the bark. Circulating sap, perverted quantitatively, qualitatively or both, may produce nuts immature, undersized or conceivably containing toxic substances absent in the healthy chestnut.

REPORT OF INVESTIGATION

The accompanying tabulation shows an analysis of characteristics ascertained to be dependable. No assertion is made that they are to be ascribed positively to the eating of chestnuts as cause. The *post hoc,* though present, is not here intended necessarily to mean *propter hoc.* Since the chestnut season is now over for this year, it may well be that reservation of decision will be required for one or more further seasons. Food-poisoning, aside from chestnuts, is excluded in the present series.

The characteristics, as grouped, follow, with some slight, unavoidable overlapping, a classification based obviously on the physical (splanchnic, somatic) systems affected in the respective cases.

In connection with this tabulation there are certain conditions which tend to contravene the idea here related to the etiology. Thus, the circumstances in Case 19 are complicated by the presence of an undoubted case of poliomyelitis convalescent in the vicinity; again, Case 7 is not accompanied by proof whether or not chestnuts were eaten. The eruption in Case 21 was mostly papular, slightly papulovesicular, and general, being especially conspicuous about the mouth, anus and prepuce. In connection with the subject of eruption as related to chestnut-eating, the tabulation indicates noticeable absence of eruption in cases undoubtedly associable with ingestion of chestnuts—a condition at variance with an elicited *viva voce* tradition to the effect that skin eruption and sore mouth are sequelae not uncommonly incidental to the eating of chestnuts.

The topic "great prostration" implies in every instance an effect disproportionate to any apparent cause.

Chemical and biologic examination of chestnuts is now going forward. It is hoped that the result of the study may be given in a future paper.

Cordial acknowledgment is made of suggestions and criticism kindly granted by Drs. W. T. Councilman, Reid Hunt and C. J. White, of Harvard University, Dr. Morris Longstreth of Cambridge, Dr. C. K. Mills of the University of Pennsylvania, Dr. Steiner of Hartford Hospital, Dr. C. C. Beach and other physicians who furnished valuable assistance in promoting this inquiry.

2814 Adams Mill Road.

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SYPHILIS IN THE MEDICAL DISPENSARY*

E. B. KRUMBHAAR, M.D.
AND
C. M. MONTGOMERY, M.D.
PHILADELPHIA

The general medical dispensary offers one of the avenues of attack on the important problem of the control of syphilis, which to-day lags sadly behind our knowledge of the pathology and treatment of the disease. It is important to recognize, first, the frequent occurrence of this disease in the medical dispensary. Out of a thousand consecutive new cases in the medical outpatient department of the Pennsylvania Hospital, thirty-four were diagnosed as luetic, of which thirty gave positive Wassermann reactions. The last-named figure is 3 per cent. of all the dispensary cases, probably considerably below half the actual proportion of patients attending the dispensary who have contracted syphilis. Even in those patients in whom the symptoms could not be attributed with absolute certainty to syphilis, the presence of the Wassermann reaction indicated the employment of specific treatment. The second point to be emphasized is that a large proportion of the patients in medical dispensaries present themselves when cure or distinct improvement is still within reach. While most of the cases have passed the primary and secondary stages, the patients often come before any definite demonstrable lesions have appeared, or while such lesions are still capable, if not of a cure, of marked improvement, or of having the progress of the disease arrested.

The data forming the basis of this paper were gleaned from the records of 108 cases tested for the Wassermann reaction in the Pennsylvania Hospital Medical Dispensary. These cases may be briefly classified as in Table 1.

TABLE 1.—CLASSIFICATION OF 108 CASES

	No. of Cases	Male	Female	Average Age, Years
Wassermann positive, 48 cases:				
Congenital	5	3	2	9
Secondary	3	3	0	28
Tertiary	40	33	7	38 2/5
Wassermann doubtful, 7 cases:				
Luetic	4	3	1	37 ½
Non-luetic	3	3	0	33
Wassermann negative, 53 cases:				
Luetic	1	1	0	47
Non-luetic	52	41	11	38 3/10

It is our desire, within the brief limits of this paper, to utilize the facts gained from a study of these cases to focus attention on a few of the many important aspects of the subject of syphilis in the general medical dispensary. The first point to be emphasized is the difficulty of recognizing many of these cases on account of the obscure guise in which they present themselves. Making a diagnosis in many of the cases is seriously hampered, because three of the main lines of investigation yield no definite information. The past history may be negative, the symptoms may be vague and indefinite in the extreme or even altogether absent, and abnormal physical findings may be slight or wholly lacking.

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* From the Out-Patient Department of the Pennsylvania Hospital.

The first point is well illustrated by Table 2, in which the past history refers to venereal sores; secondaries or miscarriages, or to more than one of these.

TABLE 2.—SYPHILITIC HISTORY

	No History	History Present
Positive Wassermann, 48 cases	20	28
Doubtful Wassermann, 7 cases	4	3
Negative Wassermann, 53 cases	33	20

The unreliability of such negative histories in these particulars has struck the attention of all who have interested themselves in this subject, and is encountered in a large proportion even of intelligent and private patients. Over 35 per cent. of our positive Wassermann cases presented negative histories, and among those with a history of venereal sore the description was often too vague to determine its character. A history of venereal sore was obtained in eighteen of the positive Wassermann cases, in which all the patients were males but one, a history of secondaries in only three, all the patients being males, and a history of miscarriages in six, occurring in four of the seven non-congenital cases (female patients), and in one congenital and one non-congenital case (male patients). These negative responses were probably not due in most cases to any desire to evade the truth, but occurred rather because the early manifestations were not recognized by the patients or were so slight that they were disregarded. It is doubtful if more careful questioning would have materially altered these figures. The difficulties in diagnosis are also demonstrated by the large proportion of positive histories among the supposedly non-luetic cases.

The second point illustrating the difficulties in the diagnosis of syphilis in the medical dispensary is the symptomatology. While some symptoms are relatively suggestive, many of them are absolutely indefinite as to either the presence or absence of the disease. To consider but a single symptom, we find pain frequently in both the positively reacting and the negatively reacting cases, though oftener in the luetic, in which it occurred in 75 per cent. of the cases in contrast to 62.3 per cent. of the non-specific cases.

TABLE 3.—PAIN

	Wassermann	
	Positive	Negative
Pain absent	12	20
Pain present	36	33
Head	11	5
Chest	10	9
Abdomen	9	5
Back	6	7
Limbs	11	9
General	7	3

From Table 3 it will be seen that pain occurred either as general pain or pain localized in one or more portions of the body; but one looks in vain in most cases for any distinguishing features about these pains. Other symptoms occurred likewise in great numbers and variety, and beyond mere mention of their frequent vagueness and indefiniteness cannot be discussed here. Our point is further demonstrated by the tentative diagnoses made prior to the examination of the blood. Thus of nine cases diagnosed as muscular rheumatism, three gave a positive Wassermann and were considered to be specific; out of fourteen classified as gastro-intestinal there were six luetic, while three out of eleven cardiovascular cases, two out of seven respiratory, two out of fifteen nervous cases, and three out of eighteen miscellaneous cases proved eventually to be syphilitic. It is also well known, as demonstrated by one of our cases, that a positive Wassermann may exist in the absence of all symptoms.

The third great difficulty that presents itself in the diagnosis of these cases is the frequent absence of any clearly demonstrable local lesion. Thus out of the forty-eight positive Wassermann cases, nineteen (39.6 per cent.) gave no abnormal physical findings, and fourteen more revealed only adenopathy. In the remaining fifteen cases there were several with conditions such as cardiovascular and nervous that could be considered as no more than suggestive.

Of course, when the history and symptoms and physical findings are considered together, the available information becomes much more valuable; but even when we have obtained everything possible from all of these sources, there are still many uncertain cases that will remain obscure. This assertion is demonstrated by many of the diagnoses in these cases made prior to the employment of the Wassermann test.

The great value of the Wassermann test in many of these cases cannot be overestimated. Thus among the forty-eight positive cases, nineteen were tentatively diagnosed under other headings at the first visit, and in a large proportion of the remainder a good deal of uncertainty existed as to the specific nature of the cases. The great need for this test was further shown by the large number of suspects who reacted negatively, in the majority of which there was no reason to question the reliability of the negative findings.

The other special matter which we wish to mention briefly is the subject of treatment and results. How unsatisfactory they are in medical dispensary work is well known; but the seriousness of the situation has failed to stimulate effort sufficiently in behalf of practical results. Imperfect treatment is a serious economic blunder on the part of the dispensary, while to the patient it may result in the loss of life. Our results in forty-eight positive Wassermann cases are briefly summarized in Table 4.

TABLE 4.—NUMBER OF VISITS AND RESULTS

No. of Visits	No. of Patients	Improved
1	24	..
From 2 to 5	13	7
From 6 to 10*	7	6
From 11 to 31†	4	4

* Of these cases 1 out of 4 later yielded a negative Wassermann.
† Of these cases 3 out of 3 later yielded a negative Wassermann.

Three of the one-visit cases were seen only a few weeks before the writing of this paper. None of the patients have continued treatment over seven months, though a few are still under observation. The figures speak so plainly for themselves that comment seems superfluous. In this connection, Fournier's statement is instructive, that 78 per cent. of cases of tertiary syphilis give a history of insufficient or improper treatment. He also states that over 8 per cent. give absolutely no history, and over 20 per cent. more have received treatment for less than three months. The best way of treating these patients cannot be entered into here, beyond emphasizing the great value of salvarsan. We do wish, however, to insist most forcibly on establishing some method by which the treatment decided on shall be carried out to completion. Sufficient time should be taken to impress the patient with the importance of full treatment, and in explaining its details, and that essential ally, the social service department, should be called on to follow up all negligent patients.

SUMMARY

Syphilis forms a considerable proportion of all cases among persons applying to the general medical dispensary — at least 3 per cent., according to our figures. It usually presents itself at a time when cure or marked improvement, or much in the way of prevention, are still available. The manifestations of the disease in the medical dispensary are often very obscure and misleading, and the cases form a group quite distinct from the type ordinarily encountered in the genito-urinary dispensaries, or in special dispensaries like the surgical or nervous dispensaries, in which the patients usually present distinct symptom-complexes or localizing phenomena. Students should be given more special instruction in these atypical types of the disease, and should be impressed with the need of being constantly on the lookout for cases of syphilis in their medical work. Dispensaries should have as nearly as possible a definite routine method of treating the disease, with the use of salvarsan occupying a prominent place, and every available means, including the cooperation of the social service department, should be utilized to the full in endeavoring to secure the complete carrying out of treatment.

Chestnut Hill—905 Pine Street.

THE CALL OF THE CHILD

FRANCES BRADLEY, M.D.,
ATLANTA, GA.

The federal Children's Bureau is more than justifying itself. At the recent Conservation Exposition in Knoxville, Tenn., the bureau installed as a part of the child-welfare exhibit, a children's health conference to try out a plan of raising the standard of children without resorting to commercial or spectacular methods. The government wanted to know if its future citizens were being given a fair chance, for no phase of conservation can be of more vital or far-reaching importance than that of securing the health and efficiency of the coming generation.

There was also a deep-rooted feeling that all mothers want fine babies, and that their failures are due more to ignorance than to indifference; that they need help rather than prodding, encouragement rather than criticism. So the conference invited all parents to bring their children—not prize babies or sick babies, for neither prizes nor prescriptions were given, but average children—and the average mother was helped by the attending physician to see her child as a future citizen, entitled to the best this country can do for him.

No scoring was done, no comparison or competition was exploited; but the results justified the premise that the natural incentive of parenthood is a safer and more wholesome stimulus than cash prizes or notoriety. Children were brought from all the adjoining towns for examination. It was a revelation to see men as interested as their wives in what would be generally considered woman's work. Business men, club men, university men, farmers, stock-growers, all wanted to know where they stood as fathers.

But one family at a time was admitted to the conference room, where each child was carefully weighed, measured and examined by the physician and parents. The latter were shown point by point where they were succeeding and where failing. Together they went into the child's present, its past, even, if necessary, into prenatal conditions; the sanitation of the home, the hygiene of the family, often its economic condition in its bearing on the nutrition of the child. All legitimate means were used to press home the responsibility of parent to child, and to help them associate cause and effect.

The conference opened its doors to all classes and conditions, and to all ages under 15.

An old countryman covered with whiskers and confusion seemed greatly interested in the conference. Finally, screwing up his courage, he asked the physician in charge why one child should be "little and puny" when others were "big and strong." After a little conversation he declared he was going back to the mountains and get his boy, and he did. A few days later he appeared at the conference room with a big-eyed, wondering wife, six great gawky girls, and a little wizened specimen of a boy fairly wiggling with hookworm.

A university man and his wife brought to the conference a splendid boy of 22 months, so well developed that they had entirely overlooked the faulty articulation of a foot due probably to their overzealous pride in his precocious stunts.

A prominent and wealthy couple brought to the conference an only daughter, so jealously guarded and exclusively trained that they did not even know the child was retarded mentally.

A solicitous and intelligent mother was amazed to have pointed out to her a marked deflection of spine in her supposedly normal child.

A countryman, on being congratulated on the advantages of the country and on the freedom of his family from enlarged lymph-nodes, the commonest defect in that section, replied that he had tried to raise his children "simple and hearty," and he "sho' believed in fresh air." "Why," he added, "yo' could fling a dog through my cabin, jes anywhars." His wife removed the snuff-stick from her mouth long enough to confide, "We comes from Greene County where people leads clean lives and we don't have them things" [enlarged lymph-nodes].

One little youngster brought himself to the conference, for his parents had died in the country, and he had come to town to go to school, but was greatly disappointed because his eyes were bad and he could not study. He was sent to a specialist, who found the sight of one eye entirely gone and the other seriously affected.

These are only samples of the people reached by the conference. The children are no more perfect than their parents, and none but the medical profession can make them so. It is for the American Medical Association to say if it is prepared to meet this call of the child. It must be admitted that physicians do not always measure up to their opportunities. One doctor, for instance, left the toilet of a new-born baby to an old negro granny, who bound the top of a sardine box over the cord to prevent bulging. The baby has doubtless died since of the infection which followed.

A prosperous young mother brought her little starving baby to the conference. "Indeed," she protested, "I have the best children's specialist in B., but you know he is always so rushed he does not have time to tell me all the things I need to know."

It was soon discovered that faulty nutrition was at the bottom of most of the ills of the conference children, and an expert was secured to give practical demonstrations on the care and preparation of milk, the feeding of infants, of schoolchildren, and the wholesome preparation of foods common to that locality. The fact was also disclosed that the bottle-fed baby is a product of the city. Of nearly 900 such children, 545 were raised in small towns of 3,000 and under. Of strictly country-bred children, exactly two were weaned at birth, one because of the death of its mother and the other on account of a "bealing breast."

The average length of breast-feeding was from eighteen to twenty months, though especially unfortunate little victims were kept at the breast for three, four and even six years. This does not by any means imply strict breast-feeding, for the rural child is almost invariably fed, in addition to the breast, a taste of everything its mother eats—"to keep it from having colic." A young mother smiled scornfully when remonstrated with for feeding her baby green grapes—"La!" she said, "he don't think no more o' eatin' them grapes 'n you do o' spittin'."

The proportion of defects varied slightly from those found by medical inspectors of schools, as the children ranged from 3 weeks to 15 years; 541, or 66.6 per cent., being under school age; and enlarged lymph-nodes were proportionately in excess of defective teeth. The East Tennessee child represented a type taller than Holt's standard, 612, or 71.3 per cent., being above Holt's normal, as against 154 below, and 90 corresponding to his standard.

In weight they are nearer normal, 422, or 49 per cent., being below Holt's standard, while 337, or 39 per cent., are above size, and 97, or 11 per cent., normal.

The conference seemed to establish several facts which have been agitating the public mind for a few years past.

1. The medical profession is alive and quite able to care for the children of the country without resorting to hysterical or spectacular methods.
2. It does not need the financial backing of advertising concerns to point the way to its duty. This work may be kept free of commercial entanglement and on the usual high plane of professional activities.
3. The medical profession stands ready to give of its knowledge and efforts to the uplift of mankind, and the little child shall not call in vain.
4. It is to be hoped that the work of raising the standard of our public health may remain where it belongs, in the hands of the government and of the medical profession, and that together they may work out the solution of this most vital phase of conservation.

706 Empire Life Building.

PRECIPITATION TESTS IN SYPHILIS *

PETER K. OLITSKY, M.D.
AND
MIRIAM P. OLMSTEAD, M.A.
NEW YORK

Wassermann, Neisser and Bruck applied Bordet-Gengou's phenomenon of complement fixation to syphilis in 1906. Since then, their principles have undergone many refinements until to-day the method of complement fixation stands out as a test *par excellence* for syphilis. The recognition of natural antisheep red cell amboceptor, the provisions against non-specific complement deviation, the use of inactive serum, the refinement of antigen, the cognizance of anticomplementary effects—all have determined the specificity of the Wassermann reaction.

Owing to the difficulties encountered in a reliable performance of the reaction, methods have been devised for the serodiagnosis of syphilis, having for their main objects simplicity and rapidity. These methods are based on precipitation in luetic serums by various reagents.

R. Kraus,[1] in 1897, discovered the precipitating action of immune serums by bacterial suspensions; but, as the *Treponema pallidum* is so difficult of cultivation, no similar method was used in syphilis to detect antibody. Fornet and Schereschewsky[2] modified this principle by adding the serums of tabetics (luetic) to those of earlier syphilis and obtained precipitations. They found the reaction specific and explained it by declaring that "antigen" existed in early syphilis serum and "antibody" in later. Several factors are concerned here that affect the specificity of this action which we shall show later.

Elias, Neubauer, Porges and Soloman[3] were the first to use a hydrophilic colloid. They employed a 1 per cent. solution of sodium glycocholate and obtained precipitation with syphilitic serums. These authors, however, have failed to demonstrate an absolute specificity in their reaction. Wieder and L'Engle[4] have used sodium taurocholate, taurin solution and distilled water, but while precipitation occurred there was a complete lack of specificity. Klausner[5] obtained a precipitum when fresh syphilitic serum was added to distilled water and allowed to incubate for several hours. Our experiences taught us that some non-luetic serums would give positive while some luetic serums would give negative results. Also, we confirmed Hayn's observation that inactivation as well as aging abolished the effect. Sachs[6] found that the addition of from 1:1,000 to 1:500 normal hydrochloric acid restores this property, but he, likewise, could not determine the specificity of the Klausner reaction. The effect of addition of the dilute hydrochloric acid is of interest in the Wassermann reaction, in which similar results may be had, and is probably due to the acid disturbing the hydroxyl concentration which occurs in inactive serums. Cuorin, used by Teruuchi and Toyada,[7] and lecithin by Georg Meier[8] gave precipitation when added to syphilitic serums, but Meier showed that these precipitinogens had a high degree of non-specificity (50 per cent. of non-luetic serums gave precipitations).

Herman and Perutz[9] modified Elias, Neubauer, Porges and Soloman's reaction and asserted that a precipitation by their method meant syphilis. Remarkable attestations to this specificity have been appearing from then to date.

In 241 cases of syphilis, Thomsen and Boas[10] found the Wassermann reaction to be positive in 86 per cent., while the Herman-Perutz reaction was positive in 48.4 per cent. In 182 non-luetic cases the Wassermann was negative in all, the Herman-Perutz positive in three.

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* From the Research Laboratory, Department of Health, New York City.

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[10] Thomsen and Boas: *Ztschr. f. Immunitätsforsch. u. exper. Therap.*, Orig., 1913, xvi, No. 4.

One case was that of a third stage pulmonary tuberculosis, another of venereal ulcer without spirochetes and the third a case of osteomyelitis and sepsis with subsequent death, necropsy showing no syphilis. In 106 serums Jensen and Freilberg[11] found sixty-three nonluetic, with the Herman-Perutz reaction negative in all, and forty-three luetic with the Herman-Perutz reaction positive in all tested, corresponding to positive Wassermann reactions. Gammeltoft[12] found it a quick and convenient method for diagnosing syphilis. Of 156 control serums (negative) only one (cancer of the liver) gave a positive precipitation, in which case the Wassermann was negative. Ellermann,[13] Lade[14] and Kallós[15] (the observation of the latter two having been made recently) came to the same conclusions, that a precipitation means syphilis whenever it occurs.

We have investigated this question by applying this reaction 259 times to 175 serums. We employed the technic recommended by Herman and Perutz. This is, in short, as follows:

Two solutions are used:

Solution 1 (stock solution diluted 1 : 20 with distilled water before use):

Sodium glycocholate	2.0 gm.
Cholesterol	0.4 gm.
95 per cent. alcohol	100.0 gm.

Solution 2 (freshly prepared before use):
Sodium glycocholate 2 per cent. in distilled water.

The test was performed by adding to 0.4 c.c. of clear inactive serum (56 C. [100.8 F.] for half an hour) in a 7 mm. bore tube, 0.2 c.c. of Solution 1 and 0.2 c.c. of Solution 2. (We controlled the test by adding 0.4 c.c. of distilled water, instead of reagent, to the serums and for each set of tests adding 0.4 c.c. of distilled water to 0.4 c.c. of the reagent.) The tubes were plugged tightly with cotton and set aside at room temperature for twenty hours, when the presence or absence of precipitation was noted.

By this method Herman and Perutz obtained these comparative results: Of 89 non-syphilitic cases, only one reacted feebly (a serum from a tuberculosis patient), of 134 syphilitic serums, 102 were examined. The Wassermann reaction was positive in 72 and negative in 30, and their reaction positive in 76 and negative in 26.

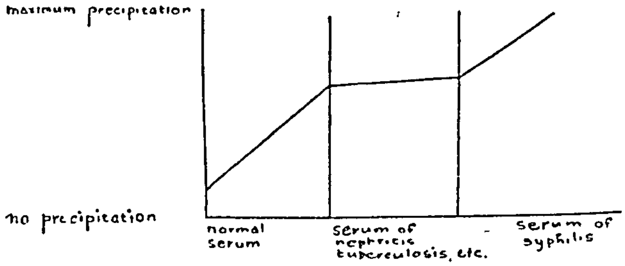
In our series of examinations, the serums were all controlled by first performing the original Wassermann reaction, but using only one-tenth of Wassermann's amounts. Alcoholic extract of normal guinea-pig heart was employed as antigen, and fixation allowed for four hours in the ice-chest. Readings were made just as soon as the controls (containing twice the amount of antigen and serum used in the test) hemolyzed.

In 95 cases of syphilis in different stages we have found 88 giving a positive Wassermann reaction, 7 being negative. Correspondingly, the Herman-Perutz modification, when used, showed 58 positive, 3 doubtful and 34 negative reactions. In 80 non-luetic serums, the Wassermann reaction was negative in all, but the Herman-Perutz test was positive in 16. Of these, 50 per cent. were serums from chronic nephritics. Other positives were found in pulmonary tuberculosis, arteriosclerosis, chronic arthritis, chronic endocarditis, obesity and a normal condition.

Strong[16] likewise found that 10 per cent. of nonspecific serums gave a positive precipitation.

We attempted to obtain more reliable results by trying various modifications in technic. One series of serums was set aside in the ice-chest instead of being kept at room temperature, but no increase in precipitation was noted; two serums of fourteen, however, positive at room temperature, became negative in the ice-chest. Another series was incubated, but the results were far from satisfactory. This temperature offered a good field for the development of bacteria, molds, etc., which interfered with precipitations. Then again, great variations were found between the precipitinogenic Solution 1, when it was diluted by the addition of distilled water drop by drop, or when water was added *en masse*. Analogously to the results in the Wassermann reaction, many more positives were obtained by the former method. The results obtained by using active or inactive serums almost corresponded; but, since some of the positives obtained in active serums were non-specific and since these became negative in inactive serums, it appears best to use inactive serum under all circumstances. In fact, the modification of Herman-Perutz in all details gave the most constant results.

We attempted to substitute the precipitinogen by using an alcoholic extract of normal guinea-pig heart (Wassermann antigen), but there was a uniform precipitation in normal as well as luetic serums. This is due to the presence of alcohol, which has the power to coagulate the albumins present in serum. Others have obtained precipitations by using various fractions of syphilitic liver antigens, yet have not obtained a desideratum for the rapid diagnosis of syphilis.



Curve of precipitation of the Herman-Perutz reaction.

RATIONALE OF PRECIPITATION REACTIONS

We were struck by the constancy with which all serums, luetic or non-luetic, became clouded when these tests were performed. Indeed, only such as gave a distinct flocculation could be regarded as positive. This reaction is a colloidal one. There is a throwing of the sols into gel formation. It is represented by cloudiness of the serum. In fact, particles measuring 100 microns will give rise to haziness, yet the individual masses will be invisible, unless the ultramicroscope is called into play. *The reactions are purely quantitative, not qualitative.*

If, on an ordinate, we were to plot normal serum, serum from nephritis, tuberculosis or conditions in which cholesterol or the albumins have been found to be increased, and then syphilis; and on an abscissa we were to plot the degree of precipitation found by using the Herman-Perutz reaction, we should obtain a curve with its maximum point at syphilis and descending therefrom to normal serum, but never reaching normal serums at zero precipitation.

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[11] Jensen and Freilberg: Berl. klin. Wchnschr., 1912, No. 23.
[12] Gammeltoft: Deutsch med. Wchnschr., 1912, No. 41.
[13] Ellermann: Deutsch. med. Wchnschr., 1912, No 5.
[14] Lade: Deutsch. med. Wchnschr., 1913, No. 15.
[15] Kallós: Deutsch. med. Wchnschr., 1913, No. 39.
[16] Strong: Jour. Med. Research, 1911, xxv, No. 1.

Other factors appear to interfere with precipitation tests. We have seen alcohol by itself in dilutions from 20 per cent. to 95 per cent. produce a gel formation. Again, serum is contaminated easily and, owing to consequent changes in reaction and surface tensions, spontaneous gel formation may occur. Elias, Neubauer, Porges and Soloman have shown that sodium glycocholate in 1 per cent. dilutions may give very light precipitations in normal serums.

CONCLUSIONS

The Herman-Perutz reaction or precipitation by hydrophilic colloids in general should be regarded as only partially specific. That is, only a heavy precipitation should be considered positive, and then only in a presumptive sense. A diagnosis of syphilis should not be made therefrom, but further investigations of such a serum is in order, especially by means of the Wassermann reaction.

The Wassermann reaction is by far the more reliable of the two.

There is no absolute parallelism between precipitation and complement fixation. The degrees of similarity should not warrant the theory that antigen precipitates antibody, thus binding complement.

Pathological Laboratory, Mt. Sinai Hospital — Research Laboratory, Department of Health.

THE LIBERATION OF FORMALDEHYD FROM HEXAMETHYLENAMIN IN PATHOLOGIC FLUIDS *

PAUL J. HANZLIK, M.D.
CLEVELAND

In a previous publication[1] it was shown that the decomposition of hexamethylenamin in the living normal organism takes place only in acid urine and gastric juice, that it depends on the excess hydrogen ion $[H^+]$ concentration[2] of the fluid, and that in those body fluids which are neutral or truly alkaline (possessing $[H^+]$ concentrations of 7.0 or less), no liberation of formaldehyd from hexamethylenamin takes place. It is conceivable, however, that the reactions of certain pathologic fluids may be truly acid. This might be true of those fluids which exhibit pronounced degrees of stasis, putrefaction or those of clinical "acidoses." With this in view, we have investigated the distribution of hexamethylenamin and free formaldehyd, and the reaction of these fluids, according to the methods described in our previous paper.

Through the courtesy of the various staffs of the Lakeside, City and Charity hospitals of Cleveland, the following pathologic fluids were obtained from patients suffering with different clinical conditions. Usually a dose of 60 grains of hexamethylenamin was given about one hour before the fluid was obtained.

URINES

In twelve urines from persons suffering from acute, chronic and hemorrhagic nephritides, the mean value for the $[H^+]$ concentration was about 6.5; that is, they were truly acid, and formaldehyd was present at all times together with hexamethylenamin. The average time of appearance of hexamethylenamin was seventeen minutes, that is, about the same as normal. In two patients with cystitis, the urines contained hexamethylenamin and free formaldehyd; the $[H^+]$ concentration of several specimens ranged from 6.3 to 6.51; that is, they were truly acid. In another person with cystitis whose urine was alkaline ($[H^+]$ concentration, 7.08), hexamethylenamin was present, but no free formaldehyd. These data indicate that the behavior of hexamethylenamin in urines of various pathologic conditions is about the same as in urines of normal persons, since it is the reaction which is the essential factor in determining the decomposition.

OTHER BODY FLUIDS

Eighteen cerebrospinal fluids obtained from the following conditions; cerebrospinal lues, general paresis, diabetes, alcoholic neuritis, neurasthenia, cerebral arteriosclerosis, leprosy, tabes, epilepsy, pneumococcic meningitis, tetanus and chronic gastritis, showed $[H^+]$ concentrations from 6.98 to 7.3; that is, they were neutral or slightly alkaline, and hexamethylenamin was present in all, but no free formaldehyd. Ten specimens of fresh bile from a patient who was ill with typhoid and had received hexamethylenamin for about four months and was operated on subsequently for cholelithiasis, showed the presence of hexamethylenamin in all of the specimens and typhoid bacilli at the beginning and end of the experiment; no formaldehyd was present in any of the freshly collected specimens and the $[H^+]$ concentration ranged from 6.98 to 7.18; that is, the bile was practically neutral or slightly alkaline. No bactericidal action had been exerted by the presence of the hexamethylenamin. Three specimens of bile from another patient operated on for cholelithiasis gave practically the same results so far as the reaction and formaldehyd liberation are concerned. On standing, some of the specimens became truly acid and showed the presence of free formaldehyd. Two specimens of edema fluid from the extremities showed the presence of hexamethylenamin, but no free formaldehyd, and their $[H^+]$ concentrations were 7.1. In a child with tuberculous pleurisy, hexamethylenamin but no free formaldehyd was found in the chest fluid, and the $[H^+]$ concentration was 7.1. An ascitic fluid showed hexamethylenamin, but no free formaldehyd; the $[H^+]$ concentration was 7.42. The bloods of four diabetic patients showed the presence of hexamethylenamin but no free formaldehyd; their $[H^+]$ concentrations ranged from 7.3 to 7.45; that is, they were slightly alkaline.

The pathologic data indicate that these body fluids contained no free formaldehyd. It would be contended, therefore, that no bactericidal action could have been expected. In our observations, the average and maximum acidity were no higher than in the corresponding normal fluids. With urines, it appears that the average acidity is higher in pathologic than in normal conditions; but the maximum acidity so far recorded is not higher in pathologic cases than the maximum acidity of some normal urines.

CONCLUSIONS

The decomposition of hexamethylenamin in pathologic fluids obeys the same laws as in normal circulat-

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* From the Pharmacological Laboratory, Western Reserve University Medical Department.

[1] Hanzlik, Paul J., and Collins, R. J.: Hexamethylenamin: The Liberation of Formaldehyd and the Antiseptic Efficiency under Different Chemical and Biological Conditions, Arch. Int. Med., November, 1913, p. 578; abstr., THE JOURNAL A. M. A., Nov. 29, 1913, p. 2012.

[2] Of the two forms for this sign, $[H^+]$ and $[\overset{+}{H}]$, the former has been preferred by THE JOURNAL; the latter was the form used in the author's previous paper, mentioned above.

ing fluids, and fluids *in vitro* under different chemical conditions. That is, the liberation of free formaldehyd from hexamethylenamin depends on the excess hydrogen ion concentration of the fluid (true acidity).

This investigation is being continued so as to obtain more data, and a more complete report will be published later.

CLAMP RESECTION OF THE URINARY BLADDER

G. KOLISCHER, M.D., CHICAGO
Attending Genito-Urinary Surgeon to the Michael Reese and Maimonides Hospitals

The case which is the subject of this report is interesting from both a diagnostic and a technical point of view.

History.—The patient, a woman aged about 30, complains that during the last eight months she has been compelled to urinate frequently, especially on lying down, that each act of urination is rather painful and also that for the last six weeks the bladder has become the seat of spontaneous pains. The attending physician made a diagnosis of cystitis and tried to improve the condition by flushings of the bladder, which proved futile.

Examination.—I found, on examination, that the urine was cloudy, owing to the presence of a considerable amount of pus, the quantity of which was estimated to correspond with the quantity of albumin found. Kidney elements were not recognized. The cystoscope examination revealed the fundus and the trigon of the bladder and the ureteral openings to be of normal appearance. In the vertex of the bladder whitish excrescences were seen which covered an area of the size and shape of a quarter. The tips of these excrescences were dendritic and fluffy. The area was surrounded by mucosa raised in thick clumsy dark-red folds that were deprived of the normal gloss, and here and there a few submucous hemorrhagic patches were seen. In order to gain a clearer view of the base of this whitish centerpiece, finger pressure was exerted on the abdomen above the symphysis; the vertex of the bladder was inverted into the viscus and fluffy excrescences were seen to be located on top of a prominence that was surrounded by a circular ridge which gave a pronounced impression of rigidity. The dendritic excrescences were obviously phosphatic precipitations. The condition of solitary ulcer was excluded because such ulcers are sunk into the mucosa as if stamped with a die, while the bodily prominence stood out in relief; therefore the diagnosis was of an incrustated tumor. Such incrustations, as a rule, occur only on tumors that are "sick," that is, decaying on the surface, and only malignant tumors become "sick." The diagnosis, therefore, narrowed down to that of a malignant tumor of the vertex of the bladder surrounded by the inflammatory zone so frequently observed in the immediate vicinity of malignant bladder tumors. To increase the evidence the bladder was treated for a week with 20 per cent. argyrol instillations with no change in the condition or the cystoscopic appearance.

Operation.—The operative plan was the following: In order to avoid any handling of the growth during the operation with a subsequent inoculation of tumor cells into the healthy mucosa, after proper exposure the whole anterior aspect of the bladder was to be denuded of its peritoneal covering, and the top of the bladder clamped far enough down to insure the resection of the vertex vesicae in healthy tissue, the clamp being applied under the control of a cystoscope introduced into the bladder before the operation.

The tumor was extirpated by the following method: The bladder was flushed out and when the fluid returned clear the viscus was distended with 120 c.c. of sterile water, after which a Nitze examining cystoscope was introduced. The patient being under nitrous oxid-oxygen anesthesia, the bladder was exposed by a median incision and its anterior aspect was stripped bare, when it unexpectedly developed that the intended cystoscopic control of the clamp appeared to be entirely unnecessary. By palpation the insertion of the tumor and the surrounding zone of infiltration were demonstrated very clearly. The top of the bladder was picked up with an appendix forceps and drawn upward. By means of a curved intestinal clamp armed with rubber tubing the vertex of the bladder was clamped off beyond the zone of infiltration in a cephalo-caudal direction. The sequestrated part of the bladder was clipped off above the clamp and the first suture line was inserted. The clamp was then removed and a superseding suture line was laid. Muscle, fascia and skin were reunited save for a tiny drainage opening in the lower angle of the incision.

Postoperative History.—The patient began to urinate shortly after the operation and continued to do so up to the seventh day, at which time a small suprapubic fistula developed. For ten days, until the fistula closed, the urine flowed through the abdominal opening. Three weeks after the operation healing was complete. At this date the patient had to urinate rather frequently, the capacity of the bladder having been materially reduced by the extensive resection. Three months after the operation the patient was again able to retain 120 c.c. and cystoscopy at this date revealed that the inside of the bladder was apparently normal, the seat of the excision being marked by a slight distortion upward, evidently the result of the attachment of the vesical vertex to the abdominal wall. While the time which has elapsed since the operation is of course too short to allow a prediction of a permanent cure, still the operative result shows a technical success.

Macroscopically the specimen obtained by the operation was a disk 5 cm. in diameter. In the center the incrustated tumor was noted as a knob 2 cm. in diameter and 8 mm. high. Microscopically, the tumor proved to be a central carcinoma surrounded by an inflammatory area, and, so far as could be ascertained, the excision was made in non-carcinomatous tissue. The clamping off of the part of the bladder-wall to be resected was first suggested some fifteen years ago by a French surgeon, whose name, at present, I am unable to recall. Hagner some time ago tried to insulate a similarly located tumor by running sutures through the bladder-wall and beneath the base of the tumor under the control of the cystoscope.

108 North State Street.

BRAZIER'S DISEASE, BRASS-FOUNDER'S AGUE, OR ACUTE BRASS-POISONING *

CHARLES A. PFENDER, M.D., WASHINGTON, D. C.

For want of a better title I have given the name of "brazier's disease" to the syndrome about to be briefly described. The literature contains articles dealing with acute brass-poisoning, brass chills, brass-founder's ague, *fièvre des fondeurs*, *Staubfieber* and *Giessfieber*, all of which refer to the same symptom-complex. The symptoms are characteristic of acute brass-poisoning or zinc poisoning and occur only in workers who have to deal with molten zinc or brass in foundries. Brass is an alloy of copper and zinc in varying proportions. Until recently only founders were exposed to these fumes, but the modern development of industrial science, the intensive development of every known mechanical device has automatically created new vocations and given rise to diseases not hitherto encountered. The perfection of the acetylene-oxygen torch has led to a marvelous degree of autogenous welding and has remarkably facilitated the art of brazing; but from this "brazier's disease" has arisen.

Acute brass-poisoning, such as occurs in founders, was first recognized by Thackrah in England in 1830, and it has since been occasionally discussed by foreign writers. George M. Kober of this city was one of the few American writers who have had occasion to call attention to this disease. The exceedingly interesting report by Emery R. Hayhurst of Chicago, read before the section on hygiene of occupations of the Fifteenth International Congress on Hygiene and Demography in 1912, is the most comprehensive publication on this subject, deals with it in great detail and is well worth study. Hayhurst, however, confines his remarks exclusively to the disease among founders and makes no reference to it as occurring in any other branch of the brass industry. It is not unlikely that cases of this disease have frequently been encountered but have been confused with malaria, as the symptom-complex has much in common with that disease.

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* Read before the Galen Society of Washington, D. C., Dec. 22, 1913.

Whenever an artificer has been exposed to the fumes of molten zinc or brass for several minutes or hours, depending largely on the ventilation of the workshop, he will experience a dry throat and a slight irritative dry cough which will cause him to seek fresh air if possible. As soon as he comes into the open he will experience a sudden chill, pain in the lungs and a sense of constriction of the chest accompanied by lassitude and a taste as of blood in the mouth. Sometimes nausea is present; occasionally vomiting occurs. Headache sets in and the chill grows more pronounced. Usually the patient will be compelled to lie down from twenty minutes to an hour after reaching fresh air. Fever, muscle cramps and joint pains are also present and the patient is the picture of misery. The symptoms terminate by a sort of pseudo-crisis with profuse perspiration, but the prostration may continue for several hours. Recovery is rapid and the patient is usually able to return to work the next day. The entire syndrome simulates that of an attack of acute malarial fever.

The case I observed occurred in a man, aged 23, an autogenous welder, forger and brazier, who had had frequent attacks which I interpreted as of malaria. He had spent a number of years in the South and had suffered from malarial nfection repeatedly. Blood examination failed to reveal the parasite, however. Quite by accident the patient observed that his attacks would occur only after he had been brazing, never after forging or welding with acetylene-oxygen torch. He would feel apparently well until he reached fresh air, when, as he expressed it, he was suddenly "knocked out," sometimes hardly able to get home. He would experience a general lassitude akin to exhaustion, pain in chest and rawness of lungs, and a taste as of blood in the mouth accompanied by a sharp rigor and general contraction of the muscles of the chest, arms and legs. Dyspnea was pronounced at times. When the attacks were severe—which was always the case when he had been exposed to the fumes for several hours—he would be literally stricken dumb, unable to move or to call for help. He describes the sensation as being "similar to lockjaw." The worst attack he had lasted four hours. His distress was so great that I resorted to morphin, 1/4 grain, and atropin, 1/100 grain which afforded relief. Sweat did not always follow the chills, nor was fever always present. and at no time did it exceed 101 F. The pulse was rapid and fairly strong, but he would tremble for hours after the paroxysm had subsided. He usually spent the next day or two out in the open air and then returned to work, apparently as well as ever. The repeated attacks reduced his weight from 136 to about 118 pounds within a few months.

As soon as I discovered that the brass fumes were the cause of all the trouble I cautioned him accordingly and recommended the installation of proper ventilation in the workshop. I advised him to engage in some other work between jobs instead of brazing continuously. He was given iron and arsenic for a long time and steadily improved until now he has regained his former weight and usual vigor. He has had several light attacks lately, but these were not sufficiently intense to force him to bed, and he was always in good condition after a night's rest. On several occasions he experienced great nervousness and a decided coarse tremor of the hands and arms and presented himself for treatment. Various remedies were resorted to, but none gave him the relief which was obtained by fifteen to thirty minutes' autocondensation treatment with about 600 to 800 milliamperes of the D'Arsonval current.

Hayhurst seems to think that fumes of molten brass or zinc form zinc carbonyl and that "the zinc is deposited as a slightly soluble compound in a very fine state of subdivision over the immense area of the respiratory surface," thus exerting its peculiar toxicity. It struck me that repeated attacks of this nature must necessarily have a disastrous effect on the pulmonary tissues after a while, just as is the case with stone-cutters, coal-miners, etc. A careful physical examination of the chest revealed nothing abnormal, but a radiograph of the chest showed that the fumes had effected many minor changes in the lungs, thus predisposing to tuberculosis or other infectious disease. Near the right hilum is a rarified area which is indicative of loss of lung tissue. It is probably a small cavity, the direct result of the death of pulmonary tissue which was caused by the inhaled toxic material. It is possible that this destruction accounts for the taste as of blood in the mouth.

I would suggest that more care be exercised in inquiring into a patient's occupation and the conditions under which he labors, especially if his disease is refractory to treatment.

304 Rhode Island Avenue, N. W.

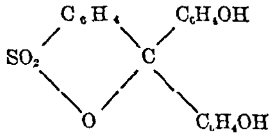
New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

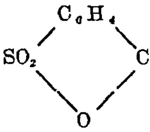
THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

PHENOLSULPHONEPHTHALEIN. — Phenolsulphonephthalein,



is a product of the interaction of phenol and sulphobenzoic acid anhydride,



differing from phenolphthalein in that a CO group of the latter is replaced by a SO_2 group.

Actions and Uses.—Solutions of phenolsulphonephthalein injected into the tissues are readily absorbed, and are excreted mainly in the urine. A very small amount is excreted by the feces.

Phenolsulphonephthalein is used for determining the functional activity of the kidney. When injected intramuscularly or intravenously it begins to be excreted in normal cases in from five to ten minutes. In case of a deficient functional activity, the first appearance of its secretion is delayed. In normal cases almost the total amount is excreted within two hours, from 60 to 80 per cent. Failure to excrete nearly the full amount within two hours indicates a deficient functional activity, and the degree of this functional deficiency may be estimated by the proportionate amount excreted within two hours. (See *Jour. Pharm. and Exper. Therap.*, 1910, i, 595, THE JOURNAL, Sept. 2, 1911, p. 811, *Arch. Int. Med.*, March, 1912, p. 284.)

Dosage.—(See above references.) One Cc. of a sterile solution, containing 0.006 Gm. phenolsulphonephthalein as the monosodium salt, is injected into the lumbar muscles. Great care must be taken that all of the solution is injected.

From twenty minutes to half an hour before administering the test, the patient is given from 200 to 400 Cc. of water in order to insure free urinary secretion; otherwise delayed time of appearance may be due to lack of secretion.

Under aseptic precautions a catheter is introduced and the bladder completely emptied or the patient is allowed voluning fluids, and fluids *in vitro* under different chemical conditions. That is, the liberation of free formaldehyd from hexamethylenamin depends on the excess hydrogen ion concentration of the fluid (true acidity).

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* Read before the Galen Society of Washington, D. C., Dec. 22, 1913.

Whenever an artificer has been exposed to the fumes of molten zinc or brass for several minutes or hours, depending largely on the ventilation of the workshop, he will experience a dry throat and a slight irritative dry cough which will cause him to seek fresh air if possible. As soon as he comes into the open he will experience a sudden chill, pain in the lungs and a sense of constriction of the chest accompanied by lassitude and a taste as of blood in the mouth. Sometimes nausea is present; occasionally vomiting occurs. Headache sets in and the chill grows more pronounced. Usually the patient will be compelled to lie down from twenty minutes to an hour after reaching fresh air. Fever, muscle cramps and joint pains are also present and the patient is the picture of misery. The symptoms terminate by a sort of pseudo-crisis with profuse perspiration, but the prostration may continue for several hours. Recovery is rapid and the patient is usually able to return to work the next day. The entire syndrome simulates that of an attack of acute malarial fever.

The case I observed occurred in a man, aged 23, an autogenous welder, forger and brazier, who had had frequent attacks which I interpreted as of malaria. He had spent a number of years in the South and had suffered from malarial infection repeatedly. Blood examination failed to reveal the parasite, however. Quite by accident the patient observed that his attacks would occur only after he had been brazing, never after forging or welding with acetylene-oxygen torch. He would feel apparently well until he reached fresh air, when, as he expressed it, he was suddenly "knocked out," sometimes hardly able to get home. He would experience a general lassitude akin to exhaustion, pain in chest and rawness of lungs, and a taste as of blood in the mouth accompanied by a sharp rigor and general contraction of the muscles of the chest, arms and legs. Dyspnea was pronounced at times. When the attacks were severe—which was always the case when he had been exposed to the fumes for several hours—he would be literally stricken dumb, unable to move or to call for help. He describes the sensation as being "similar to lockjaw." The worst attack he had lasted four hours. His distress was so great that I resorted to morphin, ¼ grain, and atropin, 1/100 grain which afforded relief. Sweat did not always follow the chills, nor was fever always present, and at no time did it exceed 101 F. The pulse was rapid and fairly strong, but he would tremble for hours after the paroxysm had subsided. He usually spent the next day or two out in the open air and then returned to work, apparently as well as ever. The repeated attacks reduced his weight from 136 to about 118 pounds within a few months.

As soon as I discovered that the brass fumes were the cause of all the trouble I cautioned him accordingly and recommended the installation of proper ventilation in the workshop. I advised him to engage in some other work between jobs instead of brazing continuously. He was given iron and arsenic for a long time and steadily improved until now he has regained his former weight and usual vigor. He has had several light attacks lately, but these were not sufficiently intense to force him to bed, and he was always in good condition after a night's rest. On several occasions he experienced great nervousness and a decided coarse tremor of the hands and arms and presented himself for treatment. Various remedies were resorted to, but none gave him the relief which was obtained by fifteen to thirty minutes' autocondensation treatment with about 600 to 800 milliamperes of the D'Arsonval current.

Hayhurst seems to think that fumes of molten brass or zinc form zinc carbonyl and that "the zinc is deposited as a slightly soluble compound in a very fine state of subdivision over the immense area of the respiratory surface," thus exerting its peculiar toxicity. It struck me that repeated attacks of this nature must necessarily have a disastrous effect on the pulmonary tissues after a while, just as is the case with stone-cutters, coal-miners, etc. A careful physical examination of the chest revealed nothing abnormal, but a radiograph of the chest showed that the fumes had effected many minor changes in the lungs, thus predisposing to tuberculosis or other infectious disease. Near the right hilum is a rarified area which is indicative of loss of lung tissue. It is probably a small cavity, the direct result of the death of pulmonary tissue which was caused by the inhaled toxic material. It is possible that this destruction accounts for the taste as of blood in the mouth.

I would suggest that more care be exercised in inquiring into a patient's occupation and the conditions under which he labors, especially if his disease is refractory to treatment.

304 Rhode Island Avenue, N. W.

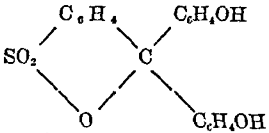
New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

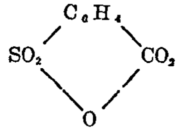
The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

PHENOLSULPHONEPHTHALEIN. — Phenolsulphonephthalein,



is a product of the interaction of phenol and sulphobenzoic acid anhydride,



differing from phenolphthalein in that a CO group of the latter is replaced by a SO_2 group.

Actions and Uses.—Solutions of phenolsulphonephthalein injected into the tissues are readily absorbed, and are excreted mainly in the urine. A very small amount is excreted by the feces.

Phenolsulphonephthalein is used for determining the functional activity of the kidney. When injected intramuscularly or intravenously it begins to be excreted in normal cases in from five to ten minutes. In case of a deficient functional activity, the first appearance of its secretion is delayed. In normal cases almost the total amount is excreted within two hours, from 60 to 80 per cent. Failure to excrete nearly the full amount within two hours indicates a deficient functional activity, and the degree of this functional deficiency may be estimated by the proportionate amount excreted within two hours. (See *Jour. Pharm. and Exper. Therap.*, 1910, i, 595, The Journal, Sept. 2, 1911, p. 811, *Arch. Int. Med.*, March, 1912, p. 284.)

Dosage.—(See above references.) One Cc. of a sterile solution, containing 0.006 Gm. phenolsulphonephthalein as the monosodium salt, is injected into the lumbar muscles. Great care must be taken that all of the solution is injected.

From twenty minutes to half an hour before administering the test, the patient is given from 200 to 400 Cc. of water in order to insure free urinary secretion; otherwise delayed time of appearance may be due to lack of secretion.

Under aseptic precautions a catheter is introduced and the bladder completely emptied or the patient is allowed voluntarily to do so. Noting the time, 1 Cc. of a carefully prepared solution of the phenolsulphonephthalein containing 6 mg. to the cubic centimeter is accurately administered intramuscularly or intravenously by means of an accurately graduated syringe.

The urine is allowed to drain into a test-tube in which has been placed a drop of 25 per cent. sodium hydroxid solution and the time of the appearance of the first faint pinkish tinge is noted.

In patients without urinary obstruction the catheter is withdrawn at the time of the appearance of the drug in the urine, and the patient is instructed to void into a receptacle at the end of one hour and into a second receptacle at the end of the second hour.

When the passing of a catheter is disagreeable and no urinary retention is present its use can be dispensed with and the time of appearance of the drug disregarded.

The urine collected is made alkaline with a 25 per cent. solution of sodium hydroxid and then diluted to 1 liter. The solution is thoroughly mixed and a small filtered portion taken to compare with the standard which is used for all of these estimations. Comparison is made in a colorimeter, a special form of which has been devised for this purpose.

Phenolsulphonephthalein is a bright red crystalline powder, slightly soluble in water and in alcohol with formation of a yellow solution; it is insoluble in ether. It is soluble in dilute alkalies with formation of a solution whose color is a purer red than alkaline phenolphthalein, while a strongly alkaline solution is purple. In solution it is sensitive to carbonic acid just as phenolphthalein is. It is readily soluble in sodium carbonate solution and shows stronger acid properties than any of the related phthaleins. The substance at first has a slightly sweetish taste which changes to a disagreeable bitter taste.

Proprietary preparation:

PHENOLSULPHONEPHTHALEIN—H. W. & Co.—Phenolsulphonephthalein made by a special process and said to be exceptionally pure.

Manufactured by Hynson, Westcott & Co., Baltimore, Md. No U. S. patents or trademarks.

Phenolsulphonephthalein Ampoules.—Ampules containing 1 Cc. of a sterile solution of 0.006 Gm. phenolsulphonephthalein, in the form of the monosodium salt.

STERILE AMPOULES OF MERCURY SALICYLATE.—This dosage form of an accepted non-proprietary article has been accepted.

Each ampule contains 0.06 gm. (1 grain) of mercuric salicylate suspended in a mixture of vegetable fats which are solid at 34.4 C. (94 F.) but liquid at body temperature.

Dosage.—The ampule is immersed in warm water until the fat is liquefied, agitated, opened, and the contents injected through a 20-gage needle. This preparation should not be injected intravenously.

Prepared by Hynson, Westcott and Co., Baltimore, Md.

SALVARSAN—EHRLICH, SUSPENSION IN AMPOULES.—This preparation has been accepted for inclusion with the appendix to New and Nonofficial Remedies.

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Therapeutics

CALCIUM

(Concluded from page 207)

CALCIUM IN PREGNANCY

Many investigations have shown that during pregnancy and the puerperium there is a diminished amount of calcium in the blood. A large amount of calcium is needed during pregnancy for the growth of the fetus, and immediately after parturition the diminished amount of calcium in the blood is probably due to its being excreted in the milk. It has been suggested[5] that this withdrawal of calcium may cause a fatty infiltration, and later, fatty degeneration of the liver-cells, and therefore a disturbed function of the liver. If this be true, it would seemingly contra-indicate the administration of chloroform during labor if calcium were thought to be deficient, the tendency of chloroform to cause liver disturbances being now well recognized.

If the calcium is much diminished in the blood, the parturient woman may have considerable uterine hemorrhage. This might not be a disadvantage, if a deficient liver caused toxemias of the blood and a tendency to eclampsia. Free uterine hemorrhage is of advantage as a preventive of eclampsia during and after parturition.

While some more recent investigations by Linzenmeier[6] have shown that in the blood of some pregnant women, at least, there is an increased proportion of calcium, and that there may not be a decrease of calcium during eclampsia, the need of the body for an extra amount of calcium during pregnancy is unquestionable. The corollary to the proposition that a lime deficiency is likely to be always more or less in evidence during pregnancy, and that it is macroscopically shown by the decay of the teeth during this condition, is that pregnant women should be given calcium salts medicinally and considerable amounts of foods rich in calcium.

It is also quite possible that, if the mother has a deficient supply of lime, the fetus may start its life handicapped by a lime deficiency, its bones may not grow properly, its teeth may not erupt properly, and even later the teeth may decay quickly. Be this supposition correct or incorrect, the mother should certainly receive foods rich in calcium during pregnancy and during lactation. These foods are cheese, milk, yolk of egg, spinach, beans, peas and many fruits. Bread, the white of egg, rice and potatoes contain little calcium, and meat a very small amount.

LIME IN RICKETS AND OSTEOMALACIA

There is no question of the fact that lime is deficient in these diseases. It is only in rare instances, however, that the patients are taking food that is seriously deficient in calcium; usually there is, instead, a faulty calcium metabolism. Therefore, the administration of calcium as a drug to these patients does not give satisfactory therapeutic results. It seems to be a fact that bottle-fed infants, even when given cow's milk, are more likely to suffer from rickets than is the breast-fed infant. It is quite probable that some internal secretion necessary for perfect nutrition is secreted in the mother's milk, may be absent in cow's milk, and hence bottle-fed children may not receive it. It is also quite probable that some children, even if breast-fed, suffer from calcium malnutrition because of defective secreting glands in the mother. Also, one or more of the glands of internal secretion in such defective children may be acting insufficiently.

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[5] Drennan: Am. Jour. Obstet., April, 1911.

[6] Linzenmeier, G.: Der Kalkgehalt des Blutes in der Schwangerschaft, Zentralbl. f. Gynäk., June 28, 1913, p. 959.

Many infants who do not develop rickets have disorders of digestion, and these are markedly benefited by the administration of calcium as a medicine. On the other hand, it can do no harm to administer calcium to rachitic patients. Small doses of pituitary extract may be of benefit in this disease. Thymus feeding has apparently failed to be of value.

LIME IN SPASMOPHILIA, TETANY AND INFANTILE CONVULSIONS

This subject has been recently discussed[7] in this department. Suffice it to say that disturbances of the parathyroid glands are more or less closely related to these conditions, and it has been found that the administration of calcium is as beneficial as that of parathyroid substance is. Hence calcium is indicated as a part of the treatment in all of these conditions. Even gastric tetany has been benefited by the administration of the calcium salts.

CALCIUM AND ARTERIOSCLEROSIS

Recently, Scandola[8] has stated his belief that in arteriosclerosis there is a retention of calcium in the tissues, on ordinary diets, and he believes that this retained calcium is likely to promote the progress of the disease and be an important factor in the deposition of calcium salts in the arterial system. He finds that nothing promotes the elimination of calcium more than the use of foods that contain little calcium, such as bread, potato, rice and meat. Cheese, milk, eggs and *many fruits should be avoided.*

PREPARATIONS OF CALCIUM

Calcii Chloridum, U. S. P. — This is a white salt, very deliquescent, soluble in water, an irritant, with a sharp, salty taste. It has many disadvantages and no special advantages over calcium lactate; therefore, the lactate should be the salt most frequently used. The dose of calcium chlorid is given in the Pharmacopeia as 0.50 gm. (7½ grains), but the dose of 0.30 gm. (5 grains) is sufficient. It is generally administered three times a day, after meals, and may be given every three hours for several doses, if deemed advisable. As it is irritant, it should always be given either on an empty stomach or dissolved in some thick syrup and water, or in glycerin.

		Gm. or c c.		
℞	Calcii chloridi	6		gr. lxxx
	Glycerini	50	or	fl. ℥iss
	Aqua menthae piperitae q. s. ad	100		fl. ℥iii

M. Sig.: A teaspoonful, in plenty of water, three times a day, after meals.

Syrup of tolu may be substituted for the glycerin. Or syrupus calcis, U. S. P. (a syrupy preparation of calcium oxid) may be administered in 2 c.c. (30 minim) doses.

Liquor Calcis, U. S. P. — Lime-water is a bland, non-irritant watery solution of lime (calcium oxid), used internally as a mild antacid. Probably very little calcium, either in this preparation or in the syrup of lime, is absorbed, and the action of these preparations is largely on the bowels. They tend to cause constipation, and are often of benefit (particularly the lime-water) in diarrheas, especially in infants. Lime-water is often added to milk, not only to increase the calcium content, but to prevent the acid of the stomach from causing rapid coagulation with the formation of large curds, since small curds are more easily digested. As lime-water is a harmless preparation, the amount added to an infant's milk should not be too small, and one, two or three teaspoonfuls may be added to each or to every other feeding, dependent on the age and the condition of the child. Externally, lime-water in equal combination with linseed oil forms linimentum calcis, U. S. P. (carron oil), a soothing alkaline protective, which has been used for many years as a sedative for the skin, especially in burns.

Calcii Lactas. N. N. R. — Calcium lactate is a calcium salt of lactic acid. It is much less irritant than the chlorid, and is valuable when a calcium salt is indicated. It occurs as an odorless, tasteless powder, not very soluble in water, requiring twenty parts of cold water to dissolve it. The dose is about 0.30 gm. (5 grains). It is best administered in powder, taken well diluted, or with milk or after meals.

Calcii Glycerophosphas, N. N. R.—Calcium glycerophosphate is the normal calcium salt of glycerophosphoric acid. It is a fine white powder, without odor or taste, practically insoluble in water, and is best administered in powder, tablet or capsule. The average dose is 0.30 gm. (5 grains) three times a day, after meals. This is probably the best salt of calcium to administer for nutritional results.

Compound syrups of glycerophosphates, as *calcii hypophosphis,* U. S. P., and *syrupus hypophosphitum compositus,* U. S. P., are superfluous preparations.

The *precipitated calcium carbonate* and *prepared chalk* may be used internally, but are most used externally. They are mild alkalies, and tend to cause constipation. The official chalk mixture (*mistura cretae,* U. S. P.) is a harmless simple preparation. If it is desired to give a child chalk, however, it had better be given in powder form and added to whatever nutriment (as barley water, or milk), the child may be receiving. Chalk mixture must be well shaken, and the dose the child would receive is indefinite.

The precipitated calcium phosphate is a preparation that has been greatly used and recommended in bone disturbances. It is an insoluble, white, tasteless and odorless powder. The Pharmacopeial dose is 1 gm. (15 grains). Unfortunately, calcium phosphate cannot be transferred as such from the intestine to bone structure; the calcium must be entirely metabolized in whatever form it is offered, and therefore this powder in its large (bulky) doses is not needed. The glycerophosphate is a better preparation.

Rat Prevention in Cities.—Sewers harbor and provide the means for the spread of rats. The rat-proofing of the city cannot be accomplished until the sewers of the city are made practically rat-proof. Rats enter and leave sewers principally *through openings in corner catch-basins.* Corner catch-basins are unnecessary in general sewer construction, and should be installed *only* when *conditions* require them. Mechanical and water-traps are unnecessary in properly designed catch-basins and should be omitted. Catch-basins, unless designed to permit prompt and direct discharge of sediment into the sewer, should be cleaned at least three times a year. Water-sealing traps should be frequently replaced and oiled to prevent development of mosquitoes.—Friench Simpson, *Pub. Health Rep.*

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[7] Infantile Convulsions, Therapeutics, THE JOURNAL A. M. A., Dec. 6, 1913, p. 2067.

[8] Scandola: Gaz. d. Osp., Sept. 7, 1913, p. 1111.

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In patients without urinary obstruction the catheter is withdrawn at the time of the appearance of the drug in the urine, and the patient is instructed to void into a receptacle at the end of one hour and into a second receptacle at the end of the second hour.

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It is also quite possible that, if the mother has a deficient supply of lime, the fetus may start its life handicapped by a lime deficiency, its bones may not grow properly, its teeth may not erupt properly, and even later the teeth may decay quickly. Be this supposition correct or incorrect, the mother should certainly receive foods rich in calcium during pregnancy and during lactation. These foods are cheese, milk, yolk of egg, spinach, beans, peas and many fruits. Bread, the white of egg, rice and potatoes contain little calcium, and meat a very small amount.

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		Gm. or c c.		
℞	Calcii chloridi	6		gr. lxxx
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Calcii Glycerophosphas, N. N. R.—Calcium glycerophosphate is the normal calcium salt of glycerophosphoric acid. It is a fine white powder, without odor or taste, practically insoluble in water, and is best administered in powder, tablet or capsule. The average dose is 0.30 gm. (5 grains) three times a day, after meals. This is probably the best salt of calcium to administer for nutritional results.

Compound syrups of glycerophosphates, as *calcii hypophosphis*, U. S. P., and *syrupus hypophosphitum compositus*, U. S. P., are superfluous preparations.

The *precipitated calcium carbonate* and *prepared chalk* may be used internally, but are most used externally. They are mild alkalies, and tend to cause constipation. The official chalk mixture (*mistura cretae*, U. S. P.) is a harmless simple preparation. If it is desired to give a child chalk, however, it had better be given in powder form and added to whatever nutriment (as barley water, or milk) the child may be receiving. Chalk mixture must be well shaken, and the dose the child would receive is indefinite.

The precipitated calcium phosphate is a preparation that has been greatly used and recommended in bone disturbances. It is an insoluble, white, tasteless and odorless powder. The Pharmacopeial dose is 1 gm. (15 grains). Unfortunately, calcium phosphate cannot be transferred as such from the intestine to bone structure; the calcium must be entirely metabolized in whatever form it is offered, and therefore this powder in its large (bulky) doses is not needed. The glycerophosphate is a better preparation.

Rat Prevention in Cities.—Sewers harbor and provide the means for the spread of rats. The rat-proofing of the city cannot be accomplished until the sewers of the city are made practically rat-proof. Rats enter and leave sewers principally through openings in corner catch-basins. Corner catch-basins are unnecessary in general sewer construction, and should be installed only when conditions require them. Mechanical and water-traps are unnecessary in properly designed catch-basins and should be omitted. Catch-basins, unless designed to permit prompt and direct discharge of sediment into the sewer, should be cleaned at least three times a year. Water-sealing traps should be frequently replaced and oiled to prevent development of mosquitoes.—Friench Simpson, *Pub. Health Rep.*

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[7] Infantile Convulsions, Therapeutics, The Journal A. M. A., Dec. 6, 1913, p. 2067.

[8] Scandola: Gaz. d. Osp., Sept. 7, 1913, p. 1111.

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The newer researches strongly suggest that the causative agents of these animal tumors are of about the same size and of the same natural class. We endorse the modest conclusion of the Rockefeller Institute investigators that "it is perhaps not too much to say that their recognition points to the existence of a new group of entities which cause in chickens neoplasms of diverse character." This is, indeed, a step in the direction of scientific progress.

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In the way of practical results, Walker and Sellards point out that with the exclusion of *Entamoeba coli* as a cause of dysentery, the indiscriminate treatment of all persons showing entamebas in their stools becomes unwarranted, and that a recognition of the specific *Entamoeba histolytica* should be an essential precedent for such treatment. They consider it probable that the motile forms found in the acute stages of the disease have little to do with its transmission, which they believe is probably due to the ingestion of the more resistant encysted forms derived from "carriers." Prophylaxis, therefore, in their opinion, should be directed toward (1) the identification of "carriers" by the systematic examination of stools of all persons whose history or occupation would fit them for such a rôle; (2) the sanitary disposal of feces; (3) treatment of "carriers," controlled by stool examinations, and (4) precautionary examination of the stools of all persons living in endemic regions, in the effort to recognize the organism while the disease is still in the sometimes prolonged period of incubation.

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For his masterly ability as an organizer and administrator, highest praise is due to Colonel Goethals, and any reward which Congress or the President may see fit to confer on him will be well deserved; but the mechanical construction of the Panama Canal differs from other engineering feats only in size. The work of the Sanitary Department under Colonel Gorgas has not only been the greatest task of sanitation that has ever been undertaken, but it is also unique and epoch-making. For the first time in human history a region which, since the earliest traditions of civilization, has been regarded as a plague spot in which it was impossible for civilized man to live and work, has been converted into a place fitted for enjoyable habitation and labor, with a death-rate below that of the most modern cities. Such an achievement is not only of the most vital importance in making possible the construction of the canal, but it also has a broader and a far greater significance. It is a practical demonstration on a large scale of the possibilities of preventive medicine and of the application of scientific discoveries of the past fifty years in the prevention of disease.

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While the general public will most readily grasp the importance of this work on account of its humanitarian aspect, the world of business has been convinced, as never before, of the practical commercial value of modern sanitation. Regions of the earth which have heretofore been closed to civilized man are, through Colonel Gorgas' work, made as habitable as any portion of our own country. Any section of the earth can now be developed, provided the cost of proper sanitation is provided. And in view of the results the cost is not prohibitive, but is a sound financial investment. Municipal and community health can be bought like any other commodity, and the responsibility for a high death-rate rests directly on these in authority. The public can fix its own death-rate by the amount it is willing to spend. These are new discoveries for civilization. Colonel Gorgas has worked them out to a positive demonstration. No matter what the future may have in store, civilized man can never recede to his old position of fatalism, résignation or indifference to the ravages of epidemic disease.

While Colonel Gorgas' work as canal commissioner and head of the Department of Sanitation has, perhaps, attracted more public attention than any other of his achievements. his long experience as a sanitarian, his noteworthy work in cleaning up Havana, his response to the request for his experience and advice at Guayaquil and in South Africa all furnish corroborative evidence, if any were needed, of his fitness for the high office to which President Wilson has appointed him. Graduating from medical college in 1879, and entering the Army Medical Corps in 1885, nearly his entire professional life has been passed in the government service. In 1903 he was promoted to the rank of colonel by special act of Congress, in recognition of his distinguished services. It is characteristic of the man and of the profession which Colonel Gorgas represents so well, that no reward in the form of great wealth will be his, nor would it be considered or accepted. The promotion which is his by right of seniority and which he has doubly earned by achievement, the holding for a few years of the position as Surgeon-General until the time for his retirement comes, the quiet and peaceful years of rest which he has so well earned, the satisfaction of work well done for the good of humanity—these are the modest rewards which will be bestowed on Colonel Gorgas, and they are the only rewards which would be worthy of the man, of his profession and of his monumental work.

FEVER AND DRUGS

Medical literature cannot be said to lack a liberal quota of contributions relating to fever. The theories and facts contributed to this subject might be presented in an almost endless array; yet there cannot be said to exist to-day a consensus of opinion as to the underlying mechanism, the factors which facilitate and maintain the existence of prolonged rise of temperature. Much of what has been written in the past about heat centers and temperature regulation is so vague and indefinite that, in not furnishing a guide for rational procedure in practice, it fails to serve the best purpose of hypothetic generalizations. For this reason it seems desirable to rehearse at some length the theory of fever and its treatment which was outlined by the Viennese pharmacologist H. H. Meyer at the last meeting of the German Congress for Internal Medicine.[1]

Owing to the fact that the production of heat in the body involves a chemical mechanism, whereas the dissipation of heat is accomplished by physical processes, and inasmuch as these two sets of phenomena manifest themselves at quite different places in the body, obviously some device must exist for the adjustment to each other of these two somewhat antagonistic processes. Precisely how the regulation of body temperature is accomplished with the nicety that prevails in the mammalian organism is a problem that has long called for elucidation. Admittedly, heat is lost from the body by the cooperation of a number of agencies that are well appreciated. The varying vascularity of the skin, the participation of the sweat-glands, etc., are features too familiar to call for detailed reference. It is not enough, however, to say that temperature regularity is maintained by variations either in heat dissipation or in production alone. To cite a single illustration, chemical reactions (which lead to heat production in the laboratory) are facilitated by heat and retarded by lowering temperatures; yet in the body, on the contrary, lowered temperature actually leads to an augmented heat production. Such considerations strengthen the conviction that there must be one or more central regulatory stations which effect a constancy of body temperature, despite the alterations in the discharge or liberation of heat which may arise in the individual seats of these responses.

That the central thermoregulator is located in the brain now seems undeniable; for when this organ is severed from the rest of the body a regulation no longer exists, and body temperature becomes adjusted to the environmental temperature, precisely as in the lower animals. Admitting the existence of central thermoregulatory devices, it becomes more than likely that every persistent alteration in body temperature, such as the rise in fevers or the fall in acute collapse, is connected with a change in the condition of the central regulatory mechanism.

Meyer postulates the existence of two groups of heat-regulating centers—the one thermogenic, leading to a conservation or production of heat in the body; the other thermolytic, facilitating heat dissipation and reduction of temperature. Both centers can be excited reflexly from the periphery, and they can also be inhibited. The conceptions here evolved are by no means new; but the evidence for the double regulatory device is growing from year to year. Barbour has actually succeeded in demonstrating that regulation may even be brought about by the effect of changing temperature directly at the centers in the corpus striatum. The local application of heat there is attended by a fall in body temperature, and conversely. According to Meyer, fever is the expression or consequence of an exaggerated excitability or irritability of the thermogenic center. When this arises it is not unlikely that the antagonistic cooling center is correspondingly inhibited, that is, rendered less susceptible to warmth. The thermogenic mechanism of control is believed to be a part of the sympathetic nervous system, in harmony with the fact that this system is known to be stimulated in conditions of hyperthyroidism, for example, in which tendencies to rise in temperature are not at all unusual. The conjecture likewise arises that the thermolytic mechanism is a part of the autonomic nervous system; for drugs such as picrotoxin, veratrin and digitalin, which undoubtedly stimulate autonomic centers like that of the vagus, occasion a fall in temperature.

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[1] Meyer, H. H.: Theorie des Fiebers und seine Behandlung, Referat., Verhandl. d. deutsch. Kong. f. inn. Med., 1913, xxx, 15.

Any factor, whether physiologic or pharmacologic, which affects the irritability of these regulatory centers, can alter the level at which the temperature regulation of the body is maintained. If the susceptibility of the thermogenic center be increased or depressed, a sustained rise or fall of body temperature correspondingly ensues; and similar conclusions apply to alterations in the antagonistic centers. It is interesting to apply the reasoning to the conditions of practice. In deficiency of thyroid or hypophyseal functioning a tendency to subnormal temperature arises, a sign perhaps that with the lack of the glandular secretion the irritability of the thermogenic center is lowered. In fevers, on the contrary, the heating center is hyperexcitable, the cooling center depressed. Like all other overworked nervous centers, those related to the temperature regulation are fatigued more easily when in a state of overstimulation. Hence it is that the febrile person may experience a fall of temperature below his febrile normal after a cold bath, whereas the person in health responds to the cooling stimulus by prompt adjustment to the normal level. Greater interest centers in the interpretation of the action of antipyretic drugs in the light of the present hypothesis. Some of them, like quinin, antipyrin, acetanilid, etc., may be regarded as mild narcotics for the excited thermogenic center. Undoubtedly they also increase the loss of heat in diverse ways; but this would always be compensated by a renewed effort of the body to adjust to the febrile temperature norm, were not the heat center depressed at the same time by the antipyretic. The relation of drugs to the cooling centers is not so clear, but it seems probable according to Meyer that aconitin and veratrin act antipyretically by stimulating, that is, increasing, the susceptibility of the cooling centers. Whatever may be the final fate of the foregoing formulation of the relation of drugs to febrile temperatures, it can only be helpful to have some intelligible basis for therapeutic procedure, even if it be in part merely a temporary undemonstrated hypothetic expedient.

WHAT BECOMES OF THE PROTEIN DIGESTION PRODUCTS?

The study of the phenomena of nutrition is making rapid progress nowadays. So far as the rôle of the proteins is concerned, attention has become centered in the amino-acids as the fundamental food fragments with which all theories of nutrition must now be concerned.[1] So long as it was still assumed that the proteins are absorbed in a form relatively like the original foodstuff — for example, as proteoses or complex polypeptids — the theory of their subsequent metabolism had to be framed somewhat differently from that suggested by the conclusions of the most recent writers who assume that a more complete disintegration takes place in the digestive tract. To say that we absorb our protein intake in the form of amino-acids is, however, a long way from explaining the subsequent stages by which the ingested nitrogen becomes a part of the tissues.

The latest studies of Van Slyke and Meyer[2] of the Rockefeller Institute for Medical Research make it clear that absorbed amino-acids rapidly disappear from the blood as it circulates through the tissues. This disappearance from the circulation seems to be the result neither of the destruction of the amino-acids nor of their synthesis, nor yet of chemical incorporation into the cell proteins. They are somehow merely taken up by the tissues without undergoing any immediate change. In the case of the muscles, for example, a fairly definite saturation point exists, which appears to set the limit to the amount of amino-acids that can be absorbed. Van Slyke and Meyer have expressed the situation by saying that the amino-acids of the blood appear to be in equilibrium with those of the tissues — a condition which would account for many observed phenomena, such as any transfer of amino-acids which may occur from organ to organ, or from maternal organs to fetus.

It is unlikely, we are told, that the process by which the amino-acids — the real nitrogenous pabulum of the organism — are taken up and held by the tissues is wholly osmotic. Probably other factors, such as mechanical adsorption or the formation of loose molecular compounds between the amino-acids and the tissues, play a part. In any event the amino-acids do not remain long unaltered in the body, but disappear more rapidly from the liver than from any other organ to which they find their way. During the period, for example, required by the liver to rid itself entirely of absorbed amino-acids their concentration in the muscles suffers no appreciable fall; nor are the other organs — the kidneys, intestines, pancreas or spleen — markedly depleted. The long-defended dominance of the liver in the destructive metabolism of proteins is thus upheld by a new kind of evidence gained from a new point of view. While the muscles retain their quota of absorbed amino-acid tenaciously, the liver is pictured by Van Slyke and Meyer as continually desaturating itself by metabolizing the amino-acids which it has absorbed, and consequently maintaining indefinitely its power to continue to remove them from the circulation, so long as they do not enter it faster than the liver can degrade them. When the amino-acids reach the circulation too rapidly, or when the liver is pathologically degenerated, the familiar safety-valves of the body act. The kidneys now assist in removing the accumulated amino-acids by excreting them unchanged, precisely as an excess of circulating sugar is excreted in hyperglycemia. Finally, when the above-named agencies for preventing undue accumulation of protein digestion products are overtaxed, death may result.

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[1] In What Form are Protein Digestion Products Absorbed? editorial, THE JOURNAL A. M. A., Dec. 20, 1913, p. 2245.

[2] Van Slyke, D. D., and Meyer, G. M.: The Fate of Protein Digestion Products in the Body: III, The Absorption of Amino-Acids from the Blood by the Tissues, Jour. Biol. Chem., 1913, xvi, 197; IV, The Locus of Chemical Transformation of Absorbed Amino-Acids, ibid., p. 213; V, The Effects of Feeding and Fasting on the Amino-Acid Content of the Tissues, ibid., p. 231.

These are new physiologic pictures in which the amino-acids are represented serving as a reserve supply of energy, like glycogen, or as a reserve of tissue-building material. They must soon become more familiar even to the busy practitioner; for they furnish a clearer and more promising outlook than could be gained in the hazy uncertainty which has so long surrounded the progress of digested protein through the organism.

Current Comment

THE TOXICITY OF EXPIRED AIR

The question whether or not expired air contains substances of unknown composition that have toxic action when introduced into the body by rebreathing or other means has been the subject of numerous investigations. The subject is of some theoretical but of greater practical interest in ventilation. From time to time positive findings have been reported, only to be challenged and denied by other investigators using the same methods more carefully controlled, the net result of all this work pointing to the conclusion that such toxic substances either are not present or are so greatly diluted that they play no rôle in ventilation. This left ventilation engineers and practical hygienists to deal with the temperature, the humidity, the carbon dioxid and unpleasant but non-toxic odors of the expired air. The old question took a new turn in 1911, when Rosenau and Amoss[1] reported their anaphylactic experiments with condensed exhalations from human beings. The experiments were positive, the guinea-pigs being sensitized by injections of the liquid condensed from the expired air, and the conclusion was drawn that the expired air contains a volatile protein or proteins of unknown composition. It does not follow from the work of Rosenau and Amoss that this protein is toxic or that it can be absorbed from the respiratory tract of the same species or different species. Recently the experiments of Rosenau and Amoss have been repeated with more careful controls by Weisman[2] at Columbia University. This investigator could not confirm Rosenau and Amoss on any point. Weisman's guinea-pigs were not sensitized by the isotonic condensation liquid from the human breath, nor did this liquid produce any toxic effect whatever in the guinea-pig even when injected in large doses. The work of Weisman appears to be carefully controlled, but it will probably not close this interesting chapter of respiration physiology.

FEEBLE-MINDEDNESS AS A CONSTITUTIONAL ANOMALY

The current emphasis on the rôle played by heredity in determining the make-up and functioning of the normal person has again brought into prominence the idea of constitutional defects as important factors in various manifestations of disease. The use of the term "constitutional" in relation to abnormalities of the organism is intended to contrast them with localized defects. It refers to a perverted behavior which pervades many, if not all, of the organs of the body instead of being limited to some definite region or isolated tissue. So long as the older type of pathologic anatomy was the dominant feature in the interpretation of diseased states it seemed almost inevitable to attempt to correlate each perversion of health with some specific, localized anatomic region—in other words, to find the definite seat of each disease. Of late, however, the still somewhat vague yet suggestive conception of constitutional defects is coming into vogue. The various so-called "diatheses" are gaining consideration as an expression of something more than an indefinable attribute of disease. Constitutional anomalies are thus becoming contrasted with localized defects. As expressed by a recent writer, the conception of constitutional anomaly "stands out as a minus variation from a normal standard and is characterized by the two significant marks of (more or less) generality and of inheritability." Dr. Amos W. Peters of the Training School at Vineland, N. J., has contended[3] that feeble-mindedness in general and from the point of view of its pathologic analysis should be regarded as a constitutional anomaly of the individual, which he has either inherited or acquired. As he points out, according to this hypothesis feeble-mindedness is not an isolated psychologic or even an isolated brain phenomenon, but is constitutional, general and far-reaching throughout brain and body. The importance of this view lies primarily in the fact that it points to the necessity of investigating the problems of the feeble-minded in directions additional to the customary psychologic, psychiatric or anatomic paths of scientific attack. So far as the broader sociologic aspects of the situation are concerned, one of the chief considerations undoubtedly is the prevention of the increase in the number of the feeble-minded. Here the potent influences of heredity must be confronted; but so far as feeble-mindedness is in any way likely to find remedial agencies, it marks a step in the direction of progress to deal with the purely physiologic aspects of the unfortunate situation. Particularly so far as acquired feeble-mindedness is concerned, that is, feeble-mindedness which may not primarily be hereditary in its origin, the most hopeful prospect appears in the search for a physiologic basis of the constitutional anomaly. Perverted function not infrequently finds an expression in various defects of metabolism. Here, then, is a possible land of promise for future research. Certain preliminary results, such as indications of abnormalities in the calcium metabolism of defectives of the Mongolian type already reported,[2] represent beginnings in this attempt to develop a physiologic pathology of the feeble-minded.

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[1] Rosenau and Amoss: Jour. Med. Research, 1911, xxv, 35; discussed in Organic Matter in Expired Air, editorial, THE JOURNAL A. M. A., Sept. 23, 1911, p. 1059.

[2] Weisman, C.: Biochemical Studies of Expired Air in Relation to Ventilation, Easton, Pa., 1913.

[3] Peters, A. W.: Feeble-Mindedness as a Constitutional Anomaly, Training School Bull., 1913, x, No. 1.

SUBSEQUENT HISTORY OF PATIENTS DISCHARGED FROM TUBERCULOSIS SANATORIUMS

In the excellent series of monographs published by the department of health of the city of New York is a report of an investigation begun in 1908 by the Council of Jewish Women to determine the status of patients discharged from tuberculosis sanatoriums. The information covered about a thousand patients discharged from a number of sanatoriums. The investigators were able to report on 554 of these, 100 of whom were dead. A difficulty that is encountered in all such investigations is the fact that a large number of those who have been discharged from the institution cannot be traced. The investigators debated whether such cases should be numbered largely among those dead or whether they are to be regarded as representative of the average and excluded from the calculation. The latter course is the one adopted, since it is shown that the number of deaths comes largely from the class discharged as improved or unimproved, while the investigation shows that those registered as "no trace" are drawn proportionately from all classes. The results show a steadily increasing number of deaths after discharge from the sanatorium, indicating a rather discouraging outlook for the sanatorium treatment. No satisfactory comparison can be made, however, because there are no data to show the outcome of similar cases without sanatorium treatment. What is really shown is that the sanatorium helps for a while and stimulates the patient to fight the disease better than he otherwise could. The social survey, however, shows what is yet but imperfectly recognized although repeatedly called to notice, namely, that the tuberculosis problem is a sociologic rather than a medical one. The majority of those discharged return to conditions which render the fight all but hopeless. Dark, insanitary tenements, fatiguing and poorly paid work, and lack of necessary care meet the discharged patient on his return from the sanatorium, and it is no wonder that the sanitary instructions of the institution are soon forgotten from sheer inability to apply them. To meet this difficulty, improvements in our methods are needed, both from a medical and from a sociologic point of view. The necessity of more sanatoriums so as to provide the patient with an opportunity to stay until better able to meet adverse conditions is evident. A more efficient medical supervision after the patient leaves the sanatorium is imperative. This can be promoted by the establishment of farm colonies or institutions where the patient can carry on his work under medical supervision. A sympathetic social control is needed that shall establish intimate confidential relations with the patient on entering the sanatorium, find out his home environment and provide for its improvement before his return, if necessary. This help should continue after his discharge and should provide for occasional reexamination.

RESEARCH IN MEDICAL MISSIONS

Wellman[1] says that it is not generally known that extensive use is made of our knowledge of tropical diseases by the medical missions in various parts of the world. He says also that these missions accomplish some of the best research in these diseases, in addition to teaching and applying scientific medicine among people who would otherwise be debarred from its benefits. In China it is said that there are over five hundred men and women engaged in the conduct of hospitals and dispensaries. The China Medical Mission Association meets triennially for the exchange of opinions and to make announcements of the results of research, and a bimonthly medical journal has been published for many years for the exchange of ideas in this field. A research committee has been formed and a large amount of valuable work has been done in the investigation of nematodes, trematodes, cestodes and the bacterial affections common to that part of the world, plague, cholera, typhus and other affections. Wellman says that more physicians and nurses are needed, and that to young men with the missionary spirit no more attractive field of endeavor could be found than that of China, Africa or India.

THE WISCONSIN MARRIAGE LAW DECLARED UNCONSTITUTIONAL

The apparent deadlock in Wisconsin over the amendment to the marriage law requiring a physician's certificate as a condition for a marriage license has been broken, for the present, at least, by the decision of the Milwaukee County Circuit Court that the law is unconstitutional and void. The matter was brought before the circuit court on an application for a writ of mandamus, directed against the county clerk, ordering him to issue a marriage license to an applicant without a health certificate. The court held that the amount of fee provided for the examinations as required by law was unreasonably low, and that the law was an undue interference with personal liberty. This decision, while only that of a circuit court, will act as a stay to the enforcement of the law until the higher courts have passed on the question. Probably no other topic has inspired so large an amount of newspaper comment in the past month. Wisconsin's experience should be a warning to state legislatures not to enact hasty and ill-considered laws on complex scientific subjects. The discussion of eugenics, race betterment and marriage regulation is productive of a large amount of good, but premature efforts to crystallize hastily formed opinions into laws can result only in confusion.

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[2] Peters, A. W.: Progress in Biochemical Research, Training School Bull., 1913, Vineland, N. J., x, No. 2.

[1] Wellman, Creighton: Am. Jour. Trop. Dis. and Prev. Med., December, 1913.

Medical News

GEORGIA

Georgia Surgeons to Visit Louisiana.—The members of the Georgia Surgeons' Club will be guests of the New Orleans profession, February 27 and 28; elaborate plans for entertainment have been made, and a number of interesting clinics have been arranged for the visiting surgeons.

New Officers.—Georgia Medical Society of Chatham County at Savannah, January 13: president, Dr. Justin L. Jackson; vice-president, Dr. Eugene R. Corson; secretary-treasurer, Dr. Victor H. Bassett, all of Savannah.——Georgia Surgeons' Club at Atlanta: president, Dr. Edward C. Davis, Atlanta; secretary-treasurer, Dr. H. Clay Willis, Rome.——Thomas County Medical Association at Thomasville, December 18: president, Dr. James N. Isler, Meigs; secretary-treasurer, Dr. Arthur D. Little, Thomasville.——Macon Medical Society, December 3: president, Dr. Thomas H. Hall; secretary-treasurer, Dr. R. H. Stovall.——Eleventh District Medical Society at Valdosta: president, Dr. Charles W. Roberts, Douglas; secretary, Dr. J. W. Simmons, Jr., Brunswick. St. Simon's Island was selected as the next place of meeting for the society.

ILLINOIS

New Officers.—St. Clair County Medical Society at East St. Louis, January 8: president, Dr. August F. Bechtold, New Athens; secretary, Dr. Buenaventura H. Portuondo, Belleville.

Chicago

Personal.—Dr. Charles J. Rowan has been appointed head of the department of surgery at the State University of Iowa, Iowa City, to succeed Dr. William Jepson, Sioux City, resigned. ——Lieut. Col. Jacob Frank and Majors Buell S. Rogers and Charles B. Walls, M. C., Ill. N. G., were appointed members of the Board of Examiners of Medical Officers.——Dr. Antonio Lagorio was guest of honor at a dinner given by the Italian Chamber of Commerce at Chicago, January 17.

INDIANA

Sanitarium Closed.—The Gilbert Memorial Sanitarium, Evansville, which was built about two years ago at a cost of $100,000 has been closed. About February 1 it will be converted into an apartment building.

Gift to University.—The State University has been given a tract of 160 acres in Texas by George T. Kerr, Indianapolis; the proceeds of the sale of this land will be used to furnish a ward in the new Robert W. Long Memorial Hospital. (Fox)

New Officers.—Hancock County at Greenfield, January 10: president, Dr. Paul E. Trees, Maxwell; secretary-treasurer, Dr. Joseph L. Allen, Greenfield.——Wayne County at Richmond, January 7: president, Dr. Charles E. McKee, Dublin; secretary, Dr. Arthur J. Whallon, Richmond.

Hospital Notes.—The first two units of the Indianapolis City Hospital will be ready for occupancy by February. They will have cost $300,000 and will accommodate 450 patients. ——The Robert W. Long Memorial Hospital, which will be completed February 1, will be used to accommodate free patients from all parts of the state. (Fox)

State Medical Board Reorganizes.—The State Board of Medical Registration and Examination met in Indianapolis, January 13, for reorganization; Dr. James M. Dinnen, Fort Wayne, was elected president; Dr. W. A. Spurgeon, Muncie, vice-president; Dr. William T. Gott, Crawfordsville, was reelected secretary, and Dr. Moses S. Canfield, Frankfort, reelected treasurer.

Personal.—Dr. Homer J. Hall, Franklin, was operated on January 9, at the Methodist Hospital, Indianapolis, for gall-stones.——Dr. Albert G. Coyner has been reappointed secretary of the board of health of Kendallville, where he has had twenty-three years of continuous service.——Dr. Edgar C. Loehr has entered on his second term as mayor of Noblesville.——Dr. Nettie B. Powell has been elected health officer of Marion.——Dr. Augustus L. Marshall has been appointed superintendent of the Indianapolis Municipal Dispensary, vice Dr. David W. Fosler, resigned.——Dr. William W. Vinnedge, Lafayette, was seriously injured recently in a collision between his buggy and a motor car.——Dr. John E. Hoover, Indianapolis, who was operated on recently for mastoiditis, is making good progress toward recovery.——Dr. Frank C. Robinson, Martinsville, is spending the winter in California and Florida.

IOWA

Site for Epileptic Colony Purchased.—The State Board of Control has purchased for $200,000 the Flynn farm as a site for the State Epileptic Colony. It is three miles west of the city limits of Des Moines, and contains 1,080 acres, and buildings valued at $60,000.

Hospital Board Officers Elected.—At the annual meeting of the medical board of the Jenny Edmundson Memorial Hospital at Council Bluffs, January 5, the following officers were elected: president, Dr. Alfred P. Hanchett; secretary, Dr. Mary L. Tinley; members of the executive committee: Drs. Donald Macrae, Louis L. Henninger and Earl Bellinger.

Personal.—Dr. Robert I. Rizer and family, Clinton, sailed for Europe January 8.——Dr. George Hofstetter, Clinton, who was operated on recently in Rochester, Minn., is reported to be making favorable progress toward recovery.——Dr. H. H. McCrea, Boone, has been unanimously elected president of the Boone Country Club.——Dr. Paul R. Burroughs, Allison, fractured his arm at the wrist, December 27, while cranking his motor car.

New Officers.—Ringgold County Medical Society at Mount Ayr, January 8: president, Dr. James H. Goad, Ellston; secretary, Dr. Samuel Bailey, Mount Ayr, both reelected.——Montgomery County Medical Society at Red Oak, December 31: president, Dr. Louis A. Thomas; secretary-treasurer, Dr. Velura E. Powell, both of Red Oak.——O'Brien County Medical Society at Sheldon, December 29: president, Dr. William C. Hand; secretary, Dr. J. B. Sherbon, both of Hartley, both reelected.——Henry County Medical Society: president, Dr. D. S. McConnaughey, Wayland.——Muscatine County Medical Society at Muscatine, December 30: president, Dr. Edward K. Tyler; secretary-treasurer, Dr. William H. Johnson, both of Muscatine and both reelected.——Lee County Medical Society at Fort Madison, December 30: president, Dr. John R. Walker, Fort Madison; secretary-treasurer, Dr. Ernest G. Wollenweber, Keokuk (reelected).

KANSAS

New Officers.—Douglas County Medical Society at Lawrence, January 13: president, Dr. Harry L. Chambers; secretary, Dr. E. James Blair, both of Lawrence.——Franklin County Medical Society at Ottawa, December 30: president, Dr. Willis L. Jacobus; secretary-treasurer, Dr. James P. Blunk, both of Ottawa.——Reno County Medical Society at Hutchinson, January 2: president, Dr. Charles L. McKittrick; secretary-treasurer, Dr. William F. Schoor, both of Hutchinson.——Sedgwick County Medical Society at Wichita, December 16: president, Dr. Lloyd P. Warren; secretary-treasurer, Dr. Frank S. Whitman, both of Wichita.——Cowley County Medical Society at Arkansas City, December 11: president, Dr. Walter P. Guy, Winfield; secretary, Dr. B. C. Geeslin, Arkansas City.

Personal.—Dr. John C. Cornell has resigned as city physician of Parsons.——Dr. Charles F. Menninger, Topeka, who was operated on at Christ Hospital, January 9, for removal of gall-stones, is reported to be improving.——Dr. Charles H. Fortner, Coffeyville, while making a professional call, was attacked by an unknown assailant and seriously injured.—— Dr. Philip B. Matz, assistant surgeon at the Soldiers' Home at Leavenworth for several years, has resigned and will be pathologist for St. John's and in the Cushing Hospital in that city.——Dr. Benjamin F. Hawk, Harper, has been appointed superintendent of the Larned State Hospital for the Insane, which will be ready to receive patients by February 1.—— Drs. James W. May, Kansas City, and Roy B. Guild, Topeka, have been appointed members of the Cosmopolitan Health Commissioners, whose duty is to recommend to the legislature a plan for the reorganization of the public health service in Kansas City.

KENTUCKY

Tuberculosis District Formed.—The counties of Christian, Fayette and Henderson voted, on December 16, to form themselves into tuberculosis districts that they may be provided with sanatoriums for tuberculosis.

Conflict Against Trachoma.—Drs. J. F. Oakley, F. Kalb and C. Moore, U. S. P. H. S., have combined in a crusade against trachoma in Jefferson County. All the schools in the county will be visited and the pupils examined; and all the schools, orphanages and other institutions in the county will be included in the investigation.

Personal.—Dr. Joseph W. Fowler has been reelected superintendent of the Louisville City Hospital.——Dr. Basil M. Taylor, Greensburg, who has been ill for several months, has gone to Florida for the remainder of the winter.——Dr. John Q. Taylor, Paducah, has been appointed chief surgeon of the Illinois Central Hospital, and Dr. Frank Boyd assistant surgeon.——Dr. Will C. Strouther, Bowling Green, is ill with septicemia following an accidental gun-shot wound in the hand.——Dr. Grover S. Brzozowski has succeeded Dr. Charles H. Whitlatch as health officer of Louisville.——Dr. Walter R. Francis, Bowling Green, suffered the fracture of several ribs in a runaway accident, December 19.——Dr. Richard B. Gilbert has been appointed a member of the board of trustees of the Louisville Tuberculosis Hospital.

NEW JERSEY

Tuberculosis Hospital to Open.—The Morris County Sanatorium, Morristown, will be formally opened February 1. The building will accommodate thirty patients.

Asks Home for Defectives.—Superintendent Kalleen, of the State Home for Boys, has asked an appropriation of $40,000 for a special home for defectives. In an examination of forty-eight boys taken from the inmates of the home, the report showed that eighteen were decided cases of feeblemindedness. Two had characteristics of insanity and thirteen were border-line cases.

New Officers.—Atlantic County Medical Society at Atlantic City, January 9: president, Dr. Walt P. Conaway; secretary, Dr. Edward Guion (reelected), both of Atlantic City.——Newark Medical Library Association, December 30: president, Dr. Edward J. Ill; secretary-treasurer, Dr. Frank W. Pinneo.——Mercer County Medical Society at Trenton: president, Dr. Frank G. Scammell; secretary, Dr. Horace D. Bellis, both of Trenton.

Personal.—Dr. Harry F. Bushey, Camden, has been sworn in as one of the coroners of Camden County.——Dr. Herman C. H. Herold has been reelected president of the Newark Board of Health, for the nineteenth term.——A dinner was given by the physicians of Elizabeth and vicinity to Dr. Victor Mravlag, mayor of Elizabeth, on the fortieth anniversary of his beginning work as a practitioner. A gold watch, engraved with his monogram, was presented to Dr. Mravlag.

NEW YORK

New Officers.—Cattaraugus County Medical Society at Salamanca, January 9: president, Dr. Herman W. Johnson, Gowanda; secretary-treasurer, Dr. Herman H. Ashley, Machias.——Yates County Medical Society at Penn Yan, January 6: president, Dr. John A. Conley, Penn Yan; secretary, Dr. George E. Welker, Dresden.

New Tuberculosis Sanatoriums.—The Board of Supervisors of Westchester County has voted to purchase 225 acres of land at North Castle for $33,500 as a site for a county tuberculosis hospital. The new buildings as planned will cost $200,000. This makes twenty counties in this state which have erected or planned to erect similar hospitals.——Work on the Onondaga County Tuberculosis Sanatorium on the Hopper's Glen site has begun. The plans provide for an administration building, to which, eventually, two wings will be added. The ward building is to be used for advanced cases of tuberculosis, while the administration building will be used for incipient cases.

New York City

Trichinosis a Reportable Disease.—At the meeting of the Board of Health Dec. 9, 1913, a resolution was adopted requiring all physicians to report cases of human trichinosis to the Department of Health.

Popular Health Lectures.—A series of lectures is to be given by the Medical Society of the County of New York Public Health Education Committee at the New York Academy of Medicine on alternate Tuesday evenings and Thursday afternoons from January 8 to March 5. This course of lectures is given in cooperation with the Public Health Education Committee of the American Medical Association.

New Officers.—Italian Medical Society, December 26: president, Dr. Felippo Cassola; secretary, Dr. John Corcia; corresponding secretary, Dr. Francis A. Auleta. It was decided to hold monthly meetings of the society to encourage Italian medical men of talent and ability to raise their professional standards, and to discuss ways and means of handling the problems which confront Italian physicians, such as the questions of midwives and lodge practice.

Personal.—Dr. Herman M. Biggs has been appointed State Commissioner of Health, and his name sent to the Senate for approval and confirmation.——Dr. William H. Knipe has been appointed visiting physician to the Gouveneur Hospital, Dr. George L. Brodhead visiting obstetrician to the Harlem Hospital, and Drs. Thomas H. Cherry and Arthur Stein have been made assistant visiting obstetricians to the Harlem Hospital.——Dr. Sigismund S. Goldwater, superintendent of Mount Sinai Hospital, on January 20, was appointed health commissioner by Mayor Mitchell.

New Cancer Laboratory Ready.—The Cancer Research Laboratory, which was the gift of the late George Crocker to Columbia University, is complete, and Dr. Francis C. Wood and his assistants are moving into the building. While the structure is meant only as a temporary housing for the laboratory, no pains have been spared in making it meet every present need. The laboratory is on the site purchased several years ago for the College of Physicians and Surgeons, but which has not been used for that purpose since the affiliation between Columbia and the Presbyterian Hospital.

Report of New York Academy of Medicine.—The annual report of the trustees of the New York Academy of Medicine shows that during the past year the trust funds have been increased by a bequest of $1,000 from the estate of the late Dr. James P. Tuttle which is to be used for the purchase of books relating to the gastro-intestinal tract. The principal of the library fund has been increased by $226 from the sale of triplicates, the endowment fund by $1,425 from admission fees, and the general permanent fund by $150. The academy extension fund has now reached the sum of $81,460. The total amount pledged to date is $125,225.

For Welfare of City Employees.—A plan is under consideration for the organization of welfare work among the employees of the Department of Health. The plan embraces the investigation of all absences over forty-eight hours, the keeping of records of the physical condition of all employees, the provision and supervision of a suitable retiring room for women and of a suitable lunch room, the establishment of an open-air garden for the use of employees during lunch hours, the organization of a vacation camp for women, and the delivery of lectures on personal hygiene. A committee has been appointed to perfect and carry out the plans.

Reform Suggested in City Hospitals.—At the meeting of the board of estimate on January 16 the report of two years' investigations of the city hospitals was submitted. This was only one of a series of reports on this subject and contained criticism of the manner of handling children in these institutions. It is claimed that there are many defects in the present system which expose the children to infection. The committee condemned the Randall's Island site of the old Children's Hospital as inaccessible and recommends a point just south of the City Home as the proper site for the new long-term children's hospital. This proposed institution should be planned to accommodate 1,000 children ultimately. Here the committee proposes to centralize the children's cases now distributed through the hospital system.

Distributing Hospital Funds on New Basis.—The Hospital Saturday and Sunday Association which has hitherto distributed cash among those hospitals which announced that they would receive charity cases, will hereafter take into consideration the cost of all free treatments and will allow up to $3 a day for surgical cases, but only 75 cents a day for convalescents and incurables. The association will strike from the roll of beneficiaries all hospitals marked "Grade C" on the records of the State Board of Charities. Such institutions will receive this year only 50 per cent. of their former allowance, and next year will be dropped altogther. It has also been decided that no hospital shall be admitted to membership unless it has a minimum of thirty-five beds and has given at least 5,000 days of free service a year for three years preceding the date of its admission.

NORTH CAROLINA

State Hospital Addition Nearly Ready.—Work on the addition to the Morganton State Hospital for the Insane is being rapidly pushed, and the building will be ready to receive patients by early summer.

New Hospital.—The Corcoran Hotel building, Durham, has been remodeled and will open in a short time as the Mercy Hospital, under the charge of Dr. Claude A. Adams and a select staff of physicians of Durham.

Personal.—Dr. Paul O. Schallert, Winston-Salem, was seriously injured in an automobile accident recently.——Dr. Harry Q. Alexander, Matthews, has been reelected president, and Dr. James M. Templeton, Cary, vice-president, of the North Carolina Farmers' Union.

New Vital Statistics Law.—The North Carolina Board of Health has secured the services of Dr. James R. Gordon, Jamestown, state senator from Guilford County, to visit all sections of the state, all medical societies, and all others concerned with the new vital statistics law, advising and instructing them as to its provisions, and to urge their hearty cooperation in securing effective registration.

New Officers.—Iredell-Alexander Counties Medical Society at Statesville, January 5: president, Dr. F. A. Carpenter, Mooresville; secretary, Dr. John E. McLaughlin, Statesville.——Wake County Medical Society at Raleigh: president, Dr. Jessie A. Strickland, Zebulon; secretary, Dr. William C. Horton, Raleigh.——Wilson County Medical Society at Wilson: president, Dr. Albert F. Williams; secretary-treasurer, Dr. Michael M. Saliba, both of Wilson.

OHIO

Dayton Physicians to Replace Flood-Damaged Books.—The Montgomery County Medical Society at its regular meeting at Dayton, January 2, voted that its annual appropriation for reference books for its library should be used this year to replace books lost in, or damaged by the floods of last spring.

Personal.—Dr. T. Addison McCann, Dayton, was reelected president, and Dr. Lee Humphrey, Malta, vice-president, of the State Medical Board at its annual meeting in Columbus.——Dr. William A. Dickey, Toledo, has been appointed surgeon of the police and fire departments.——Dr. H. L. Rockwood, Cleveland, has been appointed resident physician of the Warrensville Tuberculosis Sanatorium.——Dr. George P. Ikirt, East Liverpool, who has been seriously ill with pneumonia, is reported to be convalescent.——Dr. R. M. Manley, Cleveland, has returned from abroad.

New Officers.—Portage County Medical Society at Ravenna, January 8: president, Dr. Louis W. Prichard; secretary, Dr. Cyrus O. Jaster, both of Ravenna.——Clark County Medical Society at Springfield, January 12: president, Dr. James E. Studebaker.——Dayton Academy of Medicine, January 9: president, Dr. William H. Delscamp; secretary, Dr. Leo R. Courtright.——Coshocton County Medical Society at Coshocton, January 8: president, Dr. Thomas W. Lear; secretary, Dr. Jacob D. Lower, both of Coshocton.——Washington County Medical Society at Marietta, January 6: president, Dr. Stanford E. Edwards; secretary, Dr. Stephen A. Cunningham, both of Marietta.——Summit County Medical Society at Akron, seventy-third annual meeting January 6: president, Dr. David H. Morgan; secretary, Dr. Alexander S. McCormick (reelected), both of Akron.——Delaware County Medical Society at Delaware, January 2: president, Dr. Arthur H. Buck; secretary-treasurer, Dr. Wendell G. Hyatt, both of Delaware.

Cincinnati

New Officers.—Cincinnati Academy of Medicine, January 5: president, Dr. Allen B. Thrasher; secretary, Dr. Charles T. Souther.

Leipzig Professor At University.—Dr. Wolfgang Ostwald of the University of Leipzig is giving a series of lectures on colloid chemistry. The course is being given under the auspices of the Cincinnati section of the American Chemical Society and the Cincinnati Medical Research Society.

Association for the Welfare of the Blind.—The Cincinnati Association for the Welfare of the Blind has submitted its annual report for 1913. Much credit is due to Dr. Louis Stricker for his untiring energy and interest in the work of prevention among new-born infants. So far as is known, there has been absolutely no blindness during the past year resulting from ophthalmia neonatorum, due largely to the promptness with which cases have been reported for treatment. The work done in the workshop amounted to $14,598. Quite a number of blind men have been given employment in the shop, each receiving a wage of $6 per week.

OKLAHOMA

Hospital Notes.—The board of trustees of the Insane Hospital, Supply, has decided to erect a modern and fireproof hospital, which is to replace the building destroyed by fire in December last.——The Blackwell Hospital, Blackwell, was formally opened January 8.

Personal.—Dr. Walter Rendtorff, Anadarko, who has had charge of the Kiowa Agency school, has been promoted to a similar position in the Indian School, Carlisle, Pa.——Dr. Ernest L. Bagby, Fairfax, has assumed charge of the East Oklahoma Insane Hospital, Vinita.——Dr. Walter B. Reeves, Wapanucka, who was recently sued for malpractice, was completely vindicated, the court dismissing the case without submitting it to the jury.——Dr. Curtis R. Day, Oklahoma City, has been appointed dean of the medical school, vice Dr. William J. Jolly. (Watson)

New Officers.—Oklahoma County Medical Society at Oklahoma City, January 11: president, Dr. Millington Smith; secretary-treasurer, Dr. Frank B. Sorgatz, both of Oklahoma City.——Alfalfa County Medical Society at Cherokee, January 8: president, Dr. H. A. Lile, Aline; secretary-treasurer, Dr. Lloyd T. Lancaster, Cherokee.——Blaine County Medical Society at Watonga, January 8: president, Dr. James S. Barnett, Hitchcock; secretary-treasurer, C. Williams, Watonga.——Caddo County Medical Society at Anadarko, January 1: president, Dr. Benjamin D. Brown; secretary-treasurer, Dr. Chas. R. Hume, Anadarko.——Washita County Medical Society: president, Dr. Julius Farber, Cordell; secretary-treasurer, Dr. William Leverton, Cloud Chief.——Lincoln County Medical Society: president, Dr. Chas. M. Morgan, Chandler; secretary-treasurer, Dr. Frank B. Erwin, Wellston.

PENNSYLVANIA

New Officers.—Butler County Medical Society at Butler, January 14: president, Dr. Guy [illegible] tary, Dr. William Blaine Clark, both of [illegible] County Medical Society at Pittsburgh, January 13: president, Dr. John A. Hawkins; corresponding-secretary, Dr. Carey J. Vaux, both of Pittsburgh.——Elk County Medical Society: president, Dr. Stanley Barrett; secretary, Dr. Samuel G. Logan, Ridgeway.——Lancaster County Medical Society at Marietta, January 8: president, Dr. A. Z. Walters, Brownstown; secretary, Dr. Horace C. Kinzer, Lancaster.——Lycoming County Medical Society at Williamsport, January 9: president, Dr. Clarence E. Shaw; secretary, Dr. Robert F. Trainer, both of Williamsport.——York County Medical Society at York, January 8: president, J. N. Dinnick; secretary-reporter, Dr. Julius H. Comroe, York.——Northumberland County Medical Society at Sunbury, January 7: president, Dr. Charles A. Allison, Elysburg; secretary, Dr. Horatio W. Gass, Sunbury.——Fayette County Medical Society at Uniontown, January 6: president, Dr. Wilbur M. Lilley, Brownsville; secretary-treasurer, Dr. Joseph P. Ritenour, Uniontown.——Dauphin County Medical Society at Harrisburg, January 6: president, Dr. John F. Culp; secretary-treasurer, Dr. Frank D. Kilgore.——Ellwood City Medical Society, January 5: president, Dr. Charles Iseman; secretary, Dr. Boyd W. Shaffner.

Philadelphia

Mrs. Mitchell Dies.—Mrs. S. Weir Mitchell died from pneumonia, January 15, eleven days after the death of her husband.

Personals.—Dr. Francis Taylor, Police Surgeon, had his right fore-arm broken while cranking his automobile.——Dr. George Weinstein met with a similar accident during the past week.——Dr. M. Frazer Percival was elected roentgenologist to the Polyclinic Hospital to fill the vacancy caused by the death of Dr. Charles Lester Leonard.

Gift to Germantown Hospital.—At a meeting of the Board of Managers of the Germantown Hospital and Dispensary, it was announced that a nurses' home fully equipped would be given to the hospital by Mrs. William G. Warden, in memory of her husband. The cost of the building and equipment will be $60,000. This gift makes it possible for the hospital to accept the offer of Miss Gertrude Homer to build a maternity ward in memory of her father, Thomas B. Homer.

To Improve Blockley.—For the improvement and enlargement of the facilities of the Philadelphia General Hospital, the committee on the reorganization of that institution urged the appropriation by councils of $50,000 for the immediate employment of a competent hospital architect to prepare plans for the reconstruction work. The committee consists of Drs. Charles K. Mills, C. H. Frazier, M. B. Hartzell, H. B. Allyn, W. M. L. Coplin, E. H. Siter, Henry Sykes, Joseph Sailer, D. H. Weisenburg, H. C. Carpenter, J. B. Carnett and David Riesman.

Hamilton Mabie on Tokyo Hospital.—A mass meeting was held at Holy Trinity Church, Walnut and Nineteenth Streets, January 19, in the interest of St. Luke's Hospital, Tokyo, when Rt. Rev. A. L. Lloyd, D.D., and Mr. Hamilton Mabie spoke. They have recently returned from Japan, and have much to tell of medical and surgical work accomplished by Dr. Tuesler and Dr. Bliss who are in charge. The Japanese government recognizes the ability of these physicians, and has promised aid in building a new and much-needed hospital in Tokyo to be under their direction.

Annual Elections.—Philadelphia Clincal Association: president, Dr. Samuel M. Wilson; secretary, Howard D. Geisler.——Northwest (Germantown) Branch of the Philadelphia County Medical Society: chairman, Dr. H. B. Wilmer; clerk, Dr. C. C. Watt, Jr.——South Branch of the Philadelphia County Medical Society: president, Dr. Paul B. Cassidy; secretary, Dr. Joseph M. Endres.——Pathological Society of Philadelphia: president, Dr. D. J. McCarthy; secretary-treasurer, Dr. W. H. P. Pepper.——Samaritan Hospital Medical Society has chosen these: president, Dr. Edward K. Mitchell; secretary-treasurer, Dr. Charles T. Russell, Jr.——Medical Club of Philadelphia, January 16: president, Dr. Samuel D. Risley; secretary, Dr. William S. Wray. Resolutions were adopted deploring the great loss to the Medical Club in the death of Dr. S. Weir Mitchell.

WASHINGTON

New Officers.—Spokane County Medical Society at Spokane, January 8: president, Dr. John H. O'Shea; corresponding-secretary, Dr. Clarence A. Veasey, both of Spokane.——Pierce County Medical Association at Tacoma, January 6: president, Dr. William N. Kellar; secretary, Dr. Edward O. Sutton, both of Tacoma.

WISCONSIN

State Board Elects.—The State Board of Health, at its meeting held January 9, elected Dr. William F. Whyte, Watertown, president, and Dr. Edward S. Hayes, Eau Claire, vice-president; Dr. Cornelius A. Harper, Madison, is continued as secretary.

New Officers.—Milwaukee Medical Society, January 13: president, Dr. Robert C. Brown; secretary, Dr. Oscar Lotz.——Manitowoc County Medical Society at Manitowoc, January 7: president, Dr. William G. Kemper; secretary-treasurer, Dr. William E. Donahue, both of Manitowoc.

Personal.—Dr. John M. Beffel, Milwaukee, has been reappointed a member of the State Board of Medical Examiners.——Dr. Fay T. Clark, Waupun, has been appointed a member of the State Board of Medical Examiners to succeed Dr. Milton Rice, resigned.——Dr. Alexander Montgomery, Eau Claire, was severely burned while attempting to put out a fire in his house, January 7.

Amount Paid Out Under the Compensation Law.—In the two years during which the workmen's compensation law has been in operation the employers of labor have paid as indemnity to injured persons and their dependents in case of death, the sum of $396,354. This amount does not include the amount paid under the medical relief provision of the law, which it is estimated will equal 50 per cent. of the amount paid as indemnity.

GENERAL

Appropriation for Breakwater.—The Secretary of the Treasury has sent the House of Representatives, on January 15, a supplemental estimate of $40,000 for a breakwater for the United States Marine Hospital, Chicago.

Insurance Directors' Meeting.—The medical section of the American Life Company will hold its semi-annual session at French Lick Springs, Ind., March 4-6; Dr. J. Allison Hodges, Richmond, Va., is chairman of the program committee.

Gynecologists to Meet.—The American Gynecological Society announces its annual meeting, to be held at Boston, May 19 to 21. Prof. Dr. W. Nagle, Berlin, will deliver an address on "Operative Treatment of Prolapse of the Vagina, and Results."

Edward N. Bibbs Memorial Prize Fund.—The income of this fund, which amounts to about $500, is used in aiding investigators into the cause and treatment of diseases of the kidney. The recipient of the fund is chosen annually. The committee will select the worker for 1914 about the first of February. For information write to the Committee of the Edward N. Gibbs Memorial Prize Fund, 17 West Forty-Third Street, New York City.

Small-Pox in the Navy.—Thirty-four new cases of small-pox have developed at the Guantanamo naval station among sailors exposed on the *Ohio*. The station at Guantanamo has been quarantined, and the Atlantic fleet which was scheduled to start south, January 11, making its base at Guantanamo, will remain at Culebra, Porto Rico, until the end of January. The third death among the men exposed on the *Ohio* occurred at Charleston, S. C., January 7. Nine of the cases at Guantanamo are said to be severe.

Bequests and Donations.—The following bequests and donations have recently been announced:

Hebrew Orphan Asylum, United Hebrew Charities and Mt. Sinai Hospital, New York City, $2,500 each, by the will of William Scholle.

Presbyterian Hospital, New York City, residuary legatee of the estate of Miss Elizabeth Thompson, for $350,000.

Lenox (Mass.) Library, $2,500 by the will of Richard C. Greenleaf.

New England Hospital for Women and Children, Boston; Women's Medical College of Pennsylvania, Philadelphia; Corning (New York) Hospital, each $1,000 by the will of Alfred Jones, Boston.

Chicago Home for the Friendless; Lying-In Hospital; Presbyterian Hospital; St. Luke's Hospital, and Passavant Hospital, equal shares of the residuary estate of Thomas S. Kirkwood which amounts to about $415,000.

Maimonides Kosher Hospital, Chicago, donation of $5,000 from Abraham Slimmer, Dubuque, Iowa.

National Jewish Hospital for Consumptives, Denver, a donation of $10,000 from David May, St. Louis.

Kenosha (Wisconsin) Hospital, 5 per cent. of the estate of Max Rosenbloom, about $1,250.

Orthopedic Hospital and Society for the Relief of the Ruptured and Crippled, New York City, each $7,500 by the will of Marion de Forest Clark.

Children's Aid Society, St. John's Guild, United Hebrew Charities, Hebrew Orphanage, New York City, each $7,304, by the will of Major Ovan Tailof.

St. Luke's Hospital, New York City, $7,500 by the will of Henry M. Sands.

FOREIGN

Other Deaths in the Profession Abroad.—Dr. J. De Boeck, professor of psychiatry and medical jurisprudence at the University of Brussels.——Dr. A. Cugini, professor of medical jurisprudence at the University of Parma.——Dr. Zambaco Pasha of Constantinople died recently at Cairo at an advanced age. He had just added to his numerous works on leprosy another entitled "La lèpre dans l'Egypte actuelle." He had also recently published a work on eunuchs in the past and present.

CANADA

New Officers.—A new Catholic medical society has been organized in Montreal, of which Dr. Israel J. Desroches has been elected president.

Grenfell Institute Debt Free.—The Seamen's Institute, St. John's, Newfoundland, founded by Dr. Wilfred T. Grenfell, the Labrador medical missionary, is free from debt, and began the New Year without incumbrance.

The New University.—Dr. F. F. Wesbrook, president of the new University of British Columbia, is in the East looking for material to organize his staff. In March it is expected that a start will be made on the new university buildings to be erected in Vancouver, toward which the government of British Columbia has granted 250 acres of land. By the autumn of 1915 Dr. Wesbrook hopes that the university will be able to commence operations. In his quest Dr. Wesbrook has visited practically all the great universities of the United States and Canada.

Personals.—Dr. Rosaire Paquin has been appointed medical officer of health for Quebec City, in place of Dr. Laurent Catellier who has resigned, but will remain as consulting physician to the city. Dr. Joseph C. Gosselin has been appointed assistant to Dr. Paquin.——Dr. Evelyn J. Evatt, Winnipeg, professor of anatomy in the Manitoba Medical College, has accepted the position of professor of anatomy in Dublin University, formerly held by Dr. Geddes, who has been appointed professor of anatomy in McGill University, Montreal.——Dr. Edward V. Hogan, Halifax, N. S., has been appointed professor of surgery in the Halifax Medical College, Dr. John Stewart giving some additional lectures.

Hospital News.—To prevent multiple and proxy voting the staff of the Western Hospital, Toronto, is asking the Ontario government for special legislation to place this hospital on the same level as other hospitals in Ontario. In the present hospital act there is a provision giving donors of large sums of money a number of votes as multiples of $100. The medical staff wants "one man, one vote."——A new isolation hospital has been opened at St. Thomas, Ont. It consists of three cottages, two of which are completed; a third is to be built for small-pox patients.——Notre Dame Hospital, Montreal, is to have a new four-story addition, to cost $12,000.——A new building is to be erected for the Tuberculosis Sanatorium at Tranquille, B. C.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 10, 1914.

The Royal Commission on Venereal Diseases

At the last meeting of the Royal Commission on Venereal Diseases, Mr. J. E. Lane, senior surgeon of St. Mary's Hospital and of the London Lock Hospital and a member of the commission, gave evidence. In his opinion venereal diseases are attended by just as great a mortality as tuberculosis or cancer. He thinks that these diseases are somewhat less prevalent than they were twenty or thirty years ago, but it is difficult to speak with certainty as the statistics of certified deaths from syphilis do not give any idea of the prevalence of the disease. Although large subscriptions are given to the cause of combating other diseases, nothing is done for venereal diseases. Mr. Lane laid stress on the necessity for improved and free hospital treatment. He considered that every patient suffering from venereal disease should be entitled to gratuitous treatment and bacteriologic tests. On the subject of notification he had changed his opinion. Formerly he was in favor of reporting all cases to the sanitary authority, but he has now modified his view because he was convinced that notification would deter sufferers from seeking proper advice and would lead to increased resort to quack treatment. With regard to the education of public opinion as to venereal diseases, he said that in the first place every infected person should be instructed. It should be made compulsory for physicians to supply every patient suffering from a venereal disease with printed instructions as to the nature of the disease and the measures to be adopted in order to avoid spreading the disease to the public. Copies of such instructions should be supplied gratuitously to physicians. In colleges and universities and in all institutions in which there are a large number of employees courses of lectures on the dangers of venereal diseases should be given. It is also of great importance that the standard of knowledge of these diseases in the medical profession should be raised. In the past the teaching in the medical schools has been very inadequate, but steps are now being taken which should lead to improvement.

Dr. T. H. C. Stevenson, superintendent of statistics to the registrar-general of England, also gave evidence. He admitted that the statistics tabulated of death from syphilis did not afford any measure of the absolute amount of venereal disease, but they threw light on its relative amount, whether the comparison be historical, geographical or social. Taking the first, the curve of mortality from syphilis showed a large and rapid rise between 1850 and 1868, followed by a period of fairly sustained elevation till about 1886. This was succeeded by ten years of rapid fall. After 1896 the fall continued, but was less rapid. Dr. Stevenson thought that the fall in the last thirty years represented a genuine decrease in the mortality from the disease. Contemporaneously there was a great fall in the prevalence of the disease in the army and navy. As to social prevalence, the disease was most frequent in the highest and in the lowest classes.

A Hospital for the Middle Class

In London the poor are well provided with hospitals at which they are treated gratuitously, and the rich can command, either in their own homes or in nursing-institutions, everything that is necessary; but for the middle class unwilling to resort to, and indeed regarded as unsuitable for, hospital treatment and yet unable to pay the cost of skilled nursing and attention at home or in a nursing-home, nothing has been done, with the exception of providing a few pay wards in some of the hospitals. The opening of the Empire Hospital in Westminster for the middle class marks a new departure. It is a large up-to-date nursing-home equipped with everything required for the treatment of patients. It is run on business lines, but it is not intended to make larger profits and will provide a reasonable return on the capital invested. The rates charged vary from $15 to $52, and the majority of rooms are from $30 to $40. These terms include board and nursing.

A Defense of the Tuberculous Cow

The question of the relative merits, or rather demerits, of fresh milk which may possibly contain tuberculous bacilli, and sterilized milk, is the subject of correspondence in the *Times*. Mr. Robert Mond, son of the late Dr. Ludwig Mond, the celebrated chemist, has made a series of investigations at his experimental farm and also at the Infants' Hospital, Vincent Square, from which he has come to the conclusion that tuberculosis is not conveyed by cow's milk to man, and further that sterilized or condensed milk is a danger to children fed on it, who are in consequence predisposed to tuberculosis.

Pathologic examinations showed that infection by tubercle bacilli rarely, if ever, occurred from the bowel—as would be the case were milk the agent of transmission. The seat of invasion was ordinarily in the air-passages. Children fed on the milk of cows which subsequently were found to be suffering from tuberculosis had not contracted the disease. On the other hand, at the Infants' Hospital a large number of those children who were fed exclusively from birth on sterilized or condensed milk, which of course could be guaranteed tubercle-free, developed tuberculosis of the bovine type. The term "bovine" must not be taken to imply that a particular form of infection had been passed on from cattle to human beings. It is quite as reasonable to suppose that human beings had infected cattle originally as that cattle had infected human beings. The children were always weak and ill-nourished. This suggested that the cause might be the food. As a control experiment, a number of kittens were fed exclusively on sterilized milk; they all died in a fortnight. Mr. Mond was so impressed by these facts that he drank the milk of tuberculous cows in large quantities and found that he thrived on it. He would not have dared to use that milk sterilized. They take, he added, healthy children into crèches and feed them on sterilized milk and make them ill. But for the unsterilized cream added to the milk the children would die. It is curious that the advocates of sterilization have overlooked butter, which is just as likely to be contaminated as milk. The fact is that butter saved the unfortunates condemned to live on boiled milk. Mr. Mond regards milk as a living fluid intended by Nature for immediate consumption. If boiled it is chemically changed and loses in nutritive value. The chief danger in regard to milk is contamination, and the object of reformers should be greater cleanliness in the dairies and improved means of storage.

Sir Almroth Wright, discussing Mr. Mond's views, states that the question is so important that it should be taken up by the state and investigated scientifically. He has demonstrated that when milk is boiled the lime and magnesium salts are precipitated and settle at the bottom of the vessel. If, however, a drop of acid be added the lime-salts are again dissolved. Thus in the case of milk sterilized by boiling the child is deprived of these important constituents. Milk is a complex fluid beautifully balanced as regards its various constituents and containing all the essentials of nutrition. The loss or decrease of a particular constituent must affect the value of the milk. Sir Almroth thinks that too much is being made at present of so-called exclusion of infection, and hygiene. Infection cannot be completely excluded. The well-fed, well-nourished child possesses powers of resisting disease which are its best protection.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 9, 1914.

Salvarsan Effects Counteracted by Epinephrin

At one of the last sessions of the Société française de dermatologie et syphiligraphie, Dr. Milian, physician of the hospitals of Paris, made an interesting report on this subject. The complications which follow injections of salvarsan are not due, according to Milian, to the toxicity of the drug, which possesses scarcely any organotropic power, but are mainly connected with the mechanical troubles due to its vasodilating power. Those who are intolerant of salvarsan are generally subjects with insufficient vascular tone. This being the case, Milian thought that such patients might benefit by the preventive use of epinephrin. Although in an old syphilitic who had been subject for two years to epilepsy, each of four intravenous injections of neosalvarsan (in dose of from 0.3 to 0.35 gm.) caused violent reactions, the fifth injection of 0.45 gm. of neosalvarsan accompanied by an intramuscular injection of 0.0015 gm. epinephrin caused no reaction. Violent reaction followed the sixth injection, used without epinephrin. An intramuscular injection of 0.0015 gm. epinephrin was given before the seventh dose of neosalvarsan, which, though higher (0.5 gm.) caused no reaction whatever. Similar observations have been made on other patients, especially a physician who scarcely tolerated 0.45 gm. of neosalvarsan and took 0.6 gm. very badly, but was not inconvenienced by doses of 0.9 gm. after injections of epinephrin.

Milian generally injects from 0.0015 to 0.0002 gm. of epinephrin, according to the intensity of the reactions previously observed. The injection, he says, should be intramuscular, not subcutaneous, to avoid too rapid elimination. Intravenous injections should be reserved for cases in which quick action is necessary, as when grave symptoms manifest themselves, such as those of serous apoplexy. These occur usually on the third or fourth day after an injection of salvarsan, so that it is advisable to prolong the effect of the epinephrin injected by administering the drug by mouth, six times daily, in 0.25 mg. doses.

Heavy Intravenous Injections of Glucose Solutions

On January 6, Dr. Enriquez, physician of the hospitals of Paris, reported to the Académie de médecine the good results which he obtained from the intravenous injection of 300 per cent. glucose solutions. These were made so slowly that the injection of from 250 to 300 c.c. of glucose solution lasted about an hour. One patient often received in two or three injections as much as a liter (about one quart) of glucose solution, which represents 300 gm. of sugar, an allowance equal, as is well known, to about 1,200 calories. The tolerance of the organism to these injections is perfect.

In a great number of various infectious conditions at the stage at which the *myocardium no longer responds to the usual stimulants*, the effects of these injections have been remarkable, in most cases producing an almost immediate diuresis and a rapid improvement of the general condition. The same beneficial action has been noticed in several cases of serious intoxication (carbon monoxid and chloroform). Enriquez has also used these injections successfully in cases of more or less marked inanition due to ulcerous or stenotic lesions of the alimentary canal or to acute appendicitis, etc.

Intravenous injections of glucose solution offer to the clinician a weapon of the first order in the numerous cases of mechanical oliguria symptomatic of hyposystolic or asystolic conditions. Used after a loss of blood, these injections cause an immediate diuresis, which will be abundant in proportion to the amount of functional integrity of the kidney, and make it possible to await the slower action of the cardiac remedies.

The Journal of Radiology and Electrology

An addition to the excellent *Archives d'électricité médicale*, which for many years has been edited by Dr. Bergonié, professor of electrotherapeutics at the Faculté de médecine de Bordeaux, there has just been founded a *Journal de radiologie et d'électrologie*. The first number has just appeared and contains an article by J. Belot on the roentgenography of the maxillaries and of the teeth, a study by Guilleminot and Zimmern on the nature of the Roentgen ray and a general review by Delherm and Laquerrière on electricity in the treatment of infantile paralysis.

Marriages

Charles Lock Kennedy, M.D., Laurel, Ohio, to Miss Carrie Schlottenbeck of New Richmond, Ohio, at Batavia, Ohio, December 31.

Hilbert Francis Day, M.D., to Miss Elizabeth Vernor Henry Richards, both of Boston, at Middlebury, Conn., January 3.

Asst.-Surg. John Joseph O'Malley, U. S. N., to Miss Mildred Fendall Jones of Washington, D. C., January 7.

W. H. Alonzo Warner, M.D., East Orange, N. J., to Miss Natalie B. Feraud of Redlands, Cal., December 31.

William Glenn Miller, M.D., Morrisville, Mo., to Miss Edith Louise Dixon of Welsh, Okla., December 31.

Asa Charles McCurdy, M.D., to Miss Frances W. Starkey, both of Battle Creek, Mich., January 12.

W. W. Everett, M.D., Highland, Ill., to Miss Laura Vulliet of St. Louis, at Hope, Ark., January 8.

Preston Hunt, M.D., Texarkana, Tex., to Miss Hattie Hutton of Ballinger, Tex., January 5.

Arthur D. Sinclair, M.D., to Miss Kathryn J. Blake, both of Toronto, Ont., December 15.

Timothy J. Dwyer, M.D., to Miss Susan M. Flanagan, both of Omaha, Neb., January 7.

Henry Michie Schneider, M.D., to Miss Lena Meyer, both of Cincinnati, January 10.

Louis C. Herchenroeder, M.D., to Mrs. Minnie Moss, both of St. Louis, January 8.

Adolph B. Oyen, M.D., to Miss May Johnson, both of Chicago, January 15.

Deaths

Edward Charles Spitzka, M.D. New York University, New York City, 1873; a member of the Medical Society of the State of New York, and the New York Academy of Medicine; in 1890 president of the American Neurological Association, and in 1893 president of the New York Neurological Society; author of a well-known treatise on insanity; a specialist on internal diseases, particularly of the nervous system; consulting neurologist in the Sydenham Hospital, New York City; editor of the *American Journal of Neurology* from 1881 to 1884; died at his home in New York City, January 13, from cerebral hemorrhage, aged 61.

Henry Ader, M.D. Philadelphia School of Medicine and Surgery, 1869; Cincinnati College of Medicine and Surgery, 1876; a Fellow of the American Medical Association; died at his home at Somerset, Ind., January 3, aged 69. At a special meeting of the Wabash County Medical Association, resolutions of respect and regret were adopted.

James Dallas Croom, M.D. Medical College of the State of South Carolina, Charleston, 1876; a member of the Medical Society of the State of North Carolina; for 42 years a practitioner of Maxton; a Confederate veteran; a member of the local school board and director of the Bank of Maxton; died at his home, January 6, aged 69.

Carl Bernard Cranmer, M.D. Jefferson Medical College, 1898; a member of the Medical Society of the State of Pennsylvania; for several years physician for the Jefferson and Clearfield Coal and Iron Company at Iselin; died suddenly at the home of his parents at Monroetown, December 21, from nervous breakdown.

Edward William Malone, M.D. College of Physicians and Surgeons, Chicago, 1885; formerly a Fellow of the American Medical Association; a member of the State Medical Society of Wisconsin; at one time physician of Waukesha County; died at his home in Waukesha, January 9, from cerebral hemorrhage, aged 58.

William Bernhardt Fehring, M.D. Rush Medical College, 1903; assistant professor of obstetrics and gynecology in his Alma Mater; a member of the staff of the Presbyterian Hospital; a Fellow of the American Medical Association; died at his home in Chicago, January 10, from diabetes, aged 39.

Emma Florence Richardson, M.D. University of Iowa College of Homeopathic Medicine, Iowa City, 1893; president of the Cedar Rapids Society for the Prevention of Cruelty to Animals, and humane officer of Cedar Rapids; died at her home in that city, January 7, from cerebral hemorrhage, aged 57.

John R. Sinks, M.D. Barnes Medical College, St. Louis, 1907; of Spokane, Wash.; formerly a Fellow of the American Medical Association; a member of the Washington State Medical Association; died at the home of his parents in Spokane, January 5, from septic pneumonia, aged 30.

Edwin De Baun, M.D. New York Homeopathic Medical College, New York City, 1885; visiting physician to St. Mary's Hospital, Passaic, N. J.; died at his home in that city, January 7, from the effects of a gunshot wound, self-inflicted, it is believed, with suicidal intent, aged 59.

Richard Vaux L. Raub, M.D. Jefferson Medical College, 1896; a member of the Medical Society of the State of Pennsylvania; for several years a president of the borough council; and president and treasurer of the borough school board; died at his home in Quarryville, January 2, aged 41.

Thomas Renick Hayes, M.D. Chicago Medical College, 1864; a Fellow of the American Medical Association; for many years a highly esteemed practitioner of Bellefonte, Pa.; died at his cottage in Atlantic City, N. J., January 3, from fatty degeneration of the heart, aged 74.

Clinton Helm, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1852; medical director of volunteers during the Civil War, and a prisoner in Libby Prison; for many years a practitioner of Rockford, Ill.; died at his home in that city, January 14, aged 84.

Jefferson Davis Gober, M.D. Louisville Medical College, 1888; a member of the State Medical Association of Texas; for 20 years a practitioner of Beaumont, Tex.; died at his home in that city, January 2, from nephritis, aged 52.

Erastus Ranney Ellis, M.D. Cleveland University of Medicine and Surgery, 1857; at one time professor of surgery in the Detroit Homeopathic College; died at his home in Detroit, January 7, aged 81.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 10, 1914.

The Royal Commission on Venereal Diseases

At the last meeting of the Royal Commission on Venereal Diseases, Mr. J. E. Lane, senior surgeon of St. Mary's Hospital and of the London Lock Hospital and a member of the commission, gave evidence. In his opinion venereal diseases are attended by just as great a mortality as tuberculosis or cancer. He thinks that these diseases are somewhat less prevalent than they were twenty or thirty years ago, but it is difficult to speak with certainty as the statistics of certified deaths from syphilis do not give any idea of the prevalence of the disease. Although large subscriptions are given to the cause of combating other diseases, nothing is done for venereal diseases. Mr. Lane laid stress on the necessity for improved and free hospital treatment. He considered that every patient suffering from venereal disease should be entitled to gratuitous treatment and bacteriologic tests. On the subject of notification he had changed his opinion. Formerly he was in favor of reporting all cases to the sanitary authority, but he has now modified his view because he was convinced that notification would deter sufferers from seeking proper advice and would lead to increased resort to quack treatment. With regard to the education of public opinion as to venereal diseases, he said that in the first place every infected person should be instructed. It should be made compulsory for physicians to supply every patient suffering from a venereal disease with printed instructions as to the nature of the disease and the measures to be adopted in order to avoid spreading the disease to the public. Copies of such instructions should be supplied gratuitously to physicians. In colleges and universities and in all institutions in which there are a large number of employees courses of lectures on the dangers of venereal diseases should be given. It is also of great importance that the standard of knowledge of these diseases in the medical profession should be raised. In the past the teaching in the medical schools has been very inadequate, but steps are now being taken which should lead to improvement.

Dr. T. H. C. Stevenson, superintendent of statistics to the registrar-general of England, also gave evidence. He admitted that the statistics tabulated of death from syphilis did not afford any measure of the absolute amount of venereal disease, but they threw light on its relative amount, whether the comparison be historical, geographical or social. Taking the first, the curve of mortality from syphilis showed a large and rapid rise between 1850 and 1868, followed by a period of fairly sustained elevation till about 1886. This was succeeded by ten years of rapid fall. After 1896 the fall continued, but was less rapid. Dr. Stevenson thought that the fall in the last thirty years represented a genuine decrease in the mortality from the disease. Contemporaneously there was a great fall in the prevalence of the disease in the army and navy. As to social prevalence, the disease was most frequent in the highest and in the lowest classes.

A Hospital for the Middle Class

In London the poor are well provided with hospitals at which they are treated gratuitously, and the rich can command, either in their own homes or in nursing-institutions, everything that is necessary; but for the middle class unwilling to resort to, and indeed regarded as unsuitable for, hospital treatment and yet unable to pay the cost of skilled nursing and attention at home or in a nursing-home, nothing has been done, with the exception of providing a few pay wards in some of the hospitals. The opening of the Empire Hospital in Westminster for the middle class marks a new departure. It is a large up-to-date nursing-home equipped with everything required for the treatment of patients. It is run on business lines, but it is not intended to make larger profits and will provide a reasonable return on the capital invested. The rates charged vary from $15 to $52, and the majority of rooms are from $30 to $40. These terms include board and nursing.

A Defense of the Tuberculous Cow

The question of the relative merits, or rather demerits, of fresh milk which may possibly contain tuberculous bacilli, and sterilized milk, is the subject of correspondence in the *Times*. Mr. Robert Mond, son of the late Dr. Ludwig Mond, the celebrated chemist, has made a series of investigations at his experimental farm and also at the Infants' Hospital, Vincent Square, from which he has come to the conclusion that tuberculosis is not conveyed by cow's milk to man, and further that sterilized or condensed milk is a danger to children fed on it, who are in consequence predisposed to tuberculosis.

Pathologic examinations showed that infection by tubercle bacilli rarely, if ever, occurred from the bowel—as would be the case were milk the agent of transmission. The seat of invasion was ordinarily in the air-passages. Children fed on the milk of cows which subsequently were found to be suffering from tuberculosis had not contracted the disease. On the other hand, at the Infants' Hospital a large number of those children who were fed exclusively from birth on sterilized or condensed milk, which of course could be guaranteed tubercle-free, developed tuberculosis of the bovine type. The term "bovine" must not be taken to imply that a particular form of infection had been passed on from cattle to human beings. It is quite as reasonable to suppose that human beings had infected cattle originally as that cattle had infected human beings. The children were always weak and ill-nourished. This suggested that the cause might be the food. As a control experiment, a number of kittens were fed exclusively on sterilized milk; they all died in a fortnight. Mr. Mond was so impressed by these facts that he drank the milk of tuberculous cows in large quantities and found that he thrived on it. He would not have dared to use that milk sterilized. They take, he added, healthy children into crèches and feed them on sterilized milk and make them ill. But for the unsterilized cream added to the milk the children would die. It is curious that the advocates of sterilization have overlooked butter, which is just as likely to be contaminated as milk. The fact is that butter saved the unfortunates condemned to live on boiled milk. Mr. Mond regards milk as a living fluid intended by Nature for immediate consumption. If boiled it is chemically changed and loses in nutritive value. The chief danger in regard to milk is contamination, and the object of reformers should be greater cleanliness in the dairies and improved means of storage.

Sir Almroth Wright, discussing Mr. Mond's views, states that the question is so important that it should be taken up by the state and investigated scientifically. He has demonstrated that when milk is boiled the lime and magnesium salts are precipitated and settle at the bottom of the vessel. If, however, a drop of acid be added the lime-salts are again dissolved. Thus in the case of milk sterilized by boiling the child is deprived of these important constituents. Milk is a complex fluid beautifully balanced as regards its various constituents and containing all the essentials of nutrition. The loss or decrease of a particular constituent must affect the value of the milk. Sir Almroth thinks that too much is being made at present of so-called exclusion of infection, and hygiene. Infection cannot be completely excluded. The well-fed, well-nourished child possesses powers of resisting disease which are its best protection.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 9, 1914.

Salvarsan Effects Counteracted by Epinephrin

At one of the last sessions of the Société française de dermatologie et syphiligraphie, Dr. Milian, physician of the hospitals of Paris, made an interesting report on this subject. The complications which follow injections of salvarsan are not due, according to Milian, to the toxicity of the drug, which possesses scarcely any organotropic power, but are mainly connected with the mechanical troubles due to its vasodilating power. Those who are intolerant of salvarsan are generally subjects with insufficient vascular tone. This being the case, Milian thought that such patients might benefit by the preventive use of epinephrin. Although in an old syphilitic who had been subject for two years to epilepsy, each of four intravenous injections of neosalvarsan (in dose of from 0.3 to 0.35 gm.) caused violent reactions, the fifth injection of 0.45 gm. of neosalvarsan accompanied by an intramuscular injection of 0.0015 gm. epinephrin caused no reaction. Violent reaction followed the sixth injection, used without epinephrin. An intramuscular injection of 0.0015 gm. epinephrin was given before the seventh dose of neosalvarsan, which, though higher (0.5 gm.) caused no reaction whatever. Similar observations have been made on other patients, especially a physician who scarcely tolerated 0.45 gm. of neosalvarsan and took 0.6 gm. very badly, but was not inconvenienced by doses of 0.9 gm. after injections of epinephrin.

Milian generally injects from 0.0015 to 0.0002 gm. of epinephrin, according to the intensity of the reactions previously observed. The injection, he says, should be intramuscular, not subcutaneous, to avoid too rapid elimination. Intravenous injections should be reserved for cases in which quick action is necessary, as when grave symptoms manifest themselves, such as those of serous apoplexy. These occur usually on the third or fourth day after an injection of salvarsan, so that it is advisable to prolong the effect of the epinephrin injected by administering the drug by mouth, six times daily, in 0.25 mg. doses.

Heavy Intravenous Injections of Glucose Solutions

On January 6, Dr. Enriquez, physician of the hospitals of Paris, reported to the Académie de médecine the good results which he obtained from the intravenous injection of 300 per cent. glucose solutions. These were made so slowly that the injection of from 250 to 300 c.c. of glucose solution lasted about an hour. One patient often received in two or three injections as much as a liter (about one quart) of glucose solution, which represents 300 gm. of sugar, an allowance equal, as is well known, to about 1,200 calories. The tolerance of the organism to these injections is perfect.

In a great number of various infectious conditions at the stage at which the myocardium no longer responds to the usual stimulants, the effects of these injections have been remarkable, in most cases producing an almost immediate diuresis and a rapid improvement of the general condition. The same beneficial action has been noticed in several cases of serious intoxication (carbon monoxid and chloroform). Enriquez has also used these injections successfully in cases of more or less marked inanition due to ulcerous or stenotic lesions of the alimentary canal or to acute appendicitis, etc.

Intravenous injections of glucose solution offer to the clinician a weapon of the first order in the numerous cases of mechanical oliguria symptomatic of hyposystolic or asystolic conditions. Used after a loss of blood, these injections cause an immediate diuresis, which will be abundant in proportion to the amount of functional integrity of the kidney, and make it possible to await the slower action of the cardiac remedies.

The Journal of Radiology and Electrology

An addition to the excellent *Archives d'électricite médicale*, which for many years has been edited by Dr. Bergonié, professor of electrotherapeutics at the Faculté de médecine de Bordeaux, there has just been founded a *Journal de radiologie et d'électrologie*. The first number has just appeared and contains an article by J. Belot on the roentgenography of the maxillaries and of the teeth, a study by Guilleminot and Zimmern on the nature of the Roentgen ray and a general review by Delherm and Laquerrière on electricity in the treatment of infantile paralysis.

Marriages

Charles Lock Kennedy, M.D., Laurel, Ohio, to Miss Carrie Schlottenbeck of New Richmond, Ohio, at Batavia, Ohio, December 31.

Hilbert Francis Day, M.D., to Miss Elizabeth Vernor Henry Richards, both of Boston, at Middlebury, Conn., January 3.

Asst.-Surg. John Joseph O'Malley, U. S. N., to Miss Mildred Fendall Jones of Washington, D. C., January 7.

W. H. Alonzo Warner, M.D., East Orange, N. J., to Miss Natalie B. Feraud of Redlands, Cal., December 31.

William Glenn Miller, M.D., Morrisville, Mo., to Miss Edith Louise Dixon of Welsh, Okla., December 31.

Asa Charles McCurdy, M.D., to Miss Frances W. Starkey, both of Battle Creek, Mich., January 12.

W. W. Everett, M.D., Highland, Ill., to Miss Laura Vulliet of St. Louis, at Hope, Ark., January 8.

Preston Hunt, M.D., Texarkana, Tex., to Miss Hattie Hutton of Ballinger, Tex., January 5.

Arthur D. Sinclair, M.D., to Miss Kathryn J. Blake, both of Toronto, Ont., December 15.

Timothy J. Dwyer, M.D., to Miss Susan M. Flanagan, both of Omaha, Neb., January 7.

Henry Michie Schneider, M.D., to Miss Lena Meyer, both of Cincinnati, January 10.

Louis C. Hurchenroeder, M.D., to Mrs. Minnie Moss, both of St. Louis, January 8.

Adolph B. Oyen, M.D., to Miss May Johnson, both of Chicago, January 15.

Deaths

Edward Charles Spitzka, M.D. New York University, New York City, 1873; a member of the Medical Society of the State of New York, and the New York Academy of Medicine; in 1890 president of the American Neurological Association, and in 1893 president of the New York Neurological Society; author of a well-known treatise on insanity; a specialist on internal diseases, particularly of the nervous system; consulting neurologist in the Sydenham Hospital, New York City; editor of the *American Journal of Neurology* from 1881 to 1884; died at his home in New York City, January 13, from cerebral hemorrhage, aged 61.

Henry Ader, M.D. Philadelphia School of Medicine and Surgery, 1869; Cincinnati College of Medicine and Surgery, 1876; a Fellow of the American Medical Association; died at his home at Somerset, Ind., January 3, aged 69. At a special meeting of the Wabash County Medical Association, resolutions of respect and regret were adopted.

James Dallas Croom, M.D. Medical College of the State of South Carolina, Charleston, 1876; a member of the Medical Society of the State of North Carolina; for 42 years a practitioner of Maxton; a Confederate veteran; a member of the local school board and director of the Bank of Maxton; died at his home, January 6, aged 69.

Carl Bernard Cranmer, M.D. Jefferson Medical College, 1898; a member of the Medical Society of the State of Pennsylvania; for several years physician for the Jefferson and Clearfield Coal and Iron Company at Iselin; died suddenly at the home of his parents at Monroetown, December 21, from nervous breakdown.

Edward William Malone, M.D. College of Physicians and Surgeons, Chicago, 1885; formerly a Fellow of the American Medical Association; a member of the State Medical Society of Wisconsin; at one time physician of Waukesha County; died at his home in Waukesha, January 9, from cerebral hemorrhage, aged 58.

William Bernhardt Fehring, M.D. Rush Medical College, 1903; assistant professor of obstetrics and gynecology in his Alma Mater; a member of the staff of the Presbyterian Hospital; a Fellow of the American Medical Association; died at his home in Chicago, January 10, from diabetes, aged 39.

Emma Florence Richardson, M.D. University of Iowa College of Homeopathic Medicine, Iowa City, 1893; president of the Cedar Rapids Society for the Prevention of Cruelty to Animals, and humane officer of Cedar Rapids; died at her home in that city, January 7, from cerebral hemorrhage, aged 57.

John R. Sinks, M.D. Barnes Medical College, St. Louis, 1907; of Spokane, Wash.; formerly a Fellow of the American Medical Association; a member of the Washington State Medical Association; died at the home of his parents in Spokane, January 5, from septic pneumonia, aged 30.

Edwin De Baun, M.D. New York Homeopathic Medical College, New York City, 1885; visiting physician to St. Mary's Hospital, Passaic, N. J.; died at his home in that city, January 7, from the effects of a gunshot wound, self-inflicted, it is believed, with suicidal intent, aged 59.

Richard Vaux L. Raub, M.D. Jefferson Medical College, 1896; a member of the Medical Society of the State of Pennsylvania; for several years a president of the borough council; and president and treasurer of the borough school board; died at his home in Quarryville, January 2, aged 41.

Thomas Renick Hayes, M.D. Chicago Medical College, 1864; a Fellow of the American Medical Association; for many years a highly esteemed practitioner of Bellefonte, Pa.; died at his cottage in Atlantic City, N. J., January 3, from fatty degeneration of the heart, aged 74.

Clinton Helm, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1852; medical director of volunteers during the Civil War, and a prisoner in Libby Prison; for many years a practitioner of Rockford, Ill.; died at his home in that city, January 14, aged 84.

Jefferson Davis Gober, M.D. Louisville Medical College, 1888; a member of the State Medical Association of Texas; for 20 years a practitioner of Beaumont, Tex.; died at his home in that city, January 2, from nephritis, aged 52.

Erastus Ranney Ellis, M.D. Cleveland University of Medicine and Surgery, 1857; at one time professor of surgery in the Detroit Homeopathic College; died at his home in Detroit, January 7, aged 81.

John Wylie Hagler, M.D. University of Alabama, Mobile, 1894; a member of the Medical Association of the State of Alabama; for several years a practitioner of Prattville; died in the Williamson-Faulk Infirmary, Tuscaloosa, January 3, from erysipelas, aged 44.

Mordecai Davis Elder, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878; a Fellow of the American Medical Association; one of the oldest practitioners of Bourbon County, Kan.; died at his home in Mapleton, December 18, from angina pectoris, aged 65.

James L. Reilly, M.D. Chicago Medical College, 1889; a trustee of the Chicago Industrial School for Girls; formerly a member of the American Medical Association; died in Mercy Hospital, Chicago, January 15, from pneumonia, aged 53.

Alexander Coleman, M.D. King Eclectic Medical College, Des Moines, Iowa, 1884; formerly a member of the Nebraska state legislature; later a resident of Rocky Ford, Colo.; died at the home of his son in Selma, Cal., December 28, aged 62.

Thomas Edwards Converse, M.D. Hospital College of Medicine, Louisville, 1892; formerly a specialist on diseases of the eye, ear, nose and throat of Louisville; died at his home in Hanover, Va., January 4, from pneumonia, aged 44.

Wilhelm Thies, M.D. Jefferson Medical College, 1877; a member of the Illinois State Medical Society; for 27 years a practitioner of Chicago; died suddenly in Janesville, Wis., January 14, from heart disease, aged 61.

Benno Albrecht Hollenberg, M.D. Memphis Hospital Medical College, 1885; a Confederate veteran; for nearly fifty years a practitioner of New York City; died at his home, January 1, from heart disease, aged 73.

George William Peckham, M.D. University of Michigan, Ann Arbor, 1881; formerly superintendent of schools and public librarian of Milwaukee; died at his home in that city, January 10, aged 68.

William L. Broaddus, M.D. New York University, New York City, 1868; a member of the Medical Society of Virginia; a Confederate veteran; died at his home in Bowling Green, January 4, aged 67.

Frank Byron Brooks, M.D. University of Syracuse, N. Y., 1881; for nine years instructor and lecturer on physiology in his Alma Mater; died at his home in Syracuse, December 26, aged 58.

Abby Swan Morse, M.D. Boston University School of Medicine, 1875; of Gloucester, Mass.; died in the Addison Gilbert Hospital in that city, December 2, from appendicitis, aged 68.

Daniel Eastman Rogers, M.D. Harvard Medical School, 1901; of Center, N. D.; died in the Mandan (N. D.) Hospital, December 31, from appendicitis, three days after operation, aged 36.

Adolph E. Linder, M.D. American Medical College, Eclectic, St. Louis, 1897; died at his home in East St. Louis, December 27, from rheumatic endocarditis, aged 42.

John Fisher Keene, M.D. Western Reserve University, Cleveland, Ohio, 1893; died at his home in Gustavus, Ohio, December 24, from cerebral hemorrhage, aged 46.

Harvey Le Roy Smith, Ph.G., M.D. College of Physicians and Surgeons, Chicago, 1906; died suddenly at his home in Chicago, January 7, from heart disease, aged 41.

Charles Clay Miller, M.D. Rush Medical College, 1891; of Boulder Creek, Cal.; died at his home in that city, December 23, from general nervous breakdown

William Joseph Byrne, M.D. St. Louis College of Physicians and Surgeons, 1901; died at his home in Dubuque, Iowa, December 25, aged 33.

Joseph Francis De Silver, M.D. University of Pennsylvania, Philadelphia, 1900; died at his home in Atlantic City, N. J., January 1, aged 38.

Levi Shoemaker, M.D. Eclectic Medical Institute, Cincinnati, 1887; died at his home in Wyanet, Ill., December 18, aged 59.

George Kennon Taylor, M.D. Bellevue Hospital Medical College, 1886; died at his home in Cincinnati, December 26, aged 76.

W. S. Woolford, M.D. University of Arkansas, Little Rock, 1884; died at his home in Kingsland, Ark., December 24, aged 57.

Charles A. Pusheck, M.D. Hahnemann Medical College, Chicago, 1880; died at his home in that city, January 1, aged 54.

Charles Louis Goehring, M.D. Jefferson Medical College, 1871; died at his home in Pittsburgh, December 31, aged 70.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

EXPURGO (SANOL) ANTI-DIABETES

One More Fraudulent Nostrum for Diabetes

Expurgo Anti-Diabetes is sold and advertised in the United States by the Expurgo Manufacturing Company, Chicago. The concern is the United States branch of a Canadian company, the Sanol Manufacturing Company, Ltd., Winnipeg, which sells its product in Canada under the name of "Sanol Anti-Diabetes." The parent company is said to have been incorporated under Manitoba laws in 1912 and to have for its officers and directors the following men:

Charles Beyer, President
Frank Beyer, Vice-President
Charles Bauer, Secretary-Treasurer and Manager.

The manager of the United States branch in Chicago is said to be one E. M. von Amerongen.

The stuff is such an evident fraud that one would imagine that even intelligent laymen could not be deceived by it. Nevertheless medical journals both in the United States and Canada have accepted advertisements for this preparation and physicians—of a certain type—have been found to give testimonials for it. The medical profession is circularized widely by the concern and "write-ups" have appeared in pseudo-medical journals. Some of the claims made for Expurgo Anti-Diabetes are:

> "The only positive cure for Diabetes."
>
> "It never fails to effect a Cure in every case of this disease, in whatever form it may present itself provided the patient has not reached the last stages of the malady."
>
> "Expurgo Anti-Diabetes is the New Cure for this deadly affliction."
>
> "Diabetes is certainly curable by our new discovery—Expurgo Anti-Diabetes, provided that the course of the disease has not progressed to the extent that the vital organs are irreparably damaged."
>
> ". . . thanks to the discovery of Expurgo Anti-Diabetes, the cure of this dread disease is no longer a matter of doubt."
>
> "With the exception of very advanced cases of Diabetes . . . all diabetes can be cured by Expurgo Anti-Diabetes."

Such claims one would imagine would be more than sufficient to make plain, even to the most uncritical of physicians, the evident fraudulence of Expurgo Anti-Diabetes. Nevertheless, the advertisements of this fraud have appeared during 1913, in the following medical journals:

Medical Times
Medical Brief
Medical Summary
Buffalo Medical Journal
Louisville Monthly Journal
Iowa Medical Journal
Canada Lancet
Detroit Medical Journal
Medical Herald
Medical Review of Reviews
Medical Standard
Medical Review
Therapeutic Record
Medical Fortnightly
Indianapolis Medical Journal
Southwest Journal of Medicine and Surgery
Western Canada Medical Journal
Dominion Medical Monthly
Canadian Medical Association Journal
Canadian Practitioner and Review
Massachusetts Medical Journal

Physicians will recognize that, with but few exceptions, most of these journals are utterly unrepresentative of scientific medicine.

The *Army and Navy Medical Record* shown in The Journal recently as a journalistic fraud, contained an editorial puff of Expurgo Anti-Diabetes. The fact that the Expurgo Company reprints the "editorial" from the *Army and Navy Medical Record* as a "voluntary and unsolicited reference" and distributes it among physicians, indicates how rotten are the props on which the superstructure of this fraud rests.

Another alleged "voluntary and unsolicited reference" used by the Expurgo Company, is taken from the *Therapeutic Record* of Louisville, Kentucky. The advertising pages of the *Therapeutic Record* reek with frauds and it has more than once given editorial endorsement to some of the frauds that it advertises. The following enlightening letter is alleged to have been written by the editor of the *Therapeutic Record* to the Expurgo Company in February, 1913:

> *Gentlemen:*—Your favor of February 14th came duly to hand. Let me advise you to pay no earthly attention to the proceedings of the Medical Society where your product was criticized. These people exert no influence with the practical up-to-date element of the profession and are doing you as they do others. *Never fear—you will succeed—your remedy is all right. No man can talk down a meritorious product. I stand ready to help you in any way at any time.*
>
> With sincere regards, I am,
>
> Robert C. Kenner, M.D.,
> Editor, the *Therapeutic Record.*

This, it will be noticed, was written in February. Soon thereafter the *Therapeutic Record* was carrying the Expurgo advertisement, and the June, 1913, issue contained a puff on Expurgo, entitled "A Contribution to the Medical Treatment of Diabetes." The *quid pro quo* is fairly evident.

THE ALLEGED FORMULA

The formula for this nostrum is never published, although in some of the advertising matter it is claimed that it is "at the disposal of physicians." A physician wrote to the Expurgo Manufacturing Company, asking for the formula. He was told that the preparation was "exclusively derived from the vegetable kingdom," from which one may recognize a family likeness to the "dope" put out by the immortal Lydia Pinkham. Further, to copy the letter exactly:

> "The ingredients of which Antidiabetes is composed are chiefly:
> "fructus syzigii jambulani
> "cortex syzigii jambulani
> "flores Rosmarini
> "fructus Anisi stellati
> "Extr. fl. Colæ
> "Extr. fl. Condurango
> "Extr. fl. Chinæ spir. spiss.
> "Extr. fl. Calami
> "Extr. fl. Gentianæ."

The recipient of this noncommittal and uninforming "formula" again wrote the Expurgo Manufacturing Company, asking for quantities. Evidently this nostrum concern considered such a request a piece of impertinent inquisitiveness, for it replied to the physician in these terms, given *verbatim et literatim:*

> "*Dear Sir:*—Yours of the 16th duly to hand. We note that you state '. . . I do not like to be working in the dark, and you can readily see that this is the case unless I know how much of each ingredient I am giving. . . .'
>
> "In your letter of the 6th you asked for the composition, which you promptly received. We would like to state that we are dealing with about 600 Doctors. Some of them asked for the formula, which they received. These are all very conscientious gentlemen and none of them ever pretended 'to work in the dark.' You know furthermore that none of these ingredients is harmful in any way and yet 'work in the dark.' You know that if there were any harmful ingredients in our preparations, we would expose ourselves to imprisonment. If you are so anxious to know all about it, why do you not analyse our medicine? This would enlighten you in your 'perfect darkness.' If you want to deprive your patients and yourself of the indisputable good of our preparations, simply do not prescribe them. Why finally do you not write to the Doctors whose names we gave, who know enough to be able to enlighten those who need it.
>
> Truly yours
> The Expurgo Mfg. Co.,
> C. M. v. Amerongen, Manager.

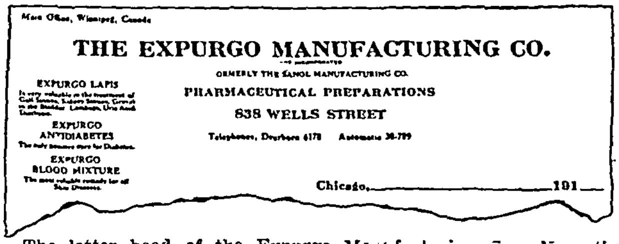
More than a year ago, a Wisconsin physician, *himself a* sufferer from diabetes, wrote The Journal that for three months he had been using Expurgo Anti-Diabetes which the Expurgo people had sent him. He declared that the nostrum had greatly reduced the percentage of sugar in his urine. In its reply, The Journal asked him whether, in testing his urine, he had used portions of twenty-four hour specimens or merely individual specimens. His attention was called to the fact that most of the nostrums for diabetes are diuretics which, by increasing the amount of urine passed, give an apparent decrease in the amount of sugar excreted. A few days later, the physician wrote again, stating that he had committed the very error The Journal had suspected, and reporting that an examination of a twenty-four-hour specimen showed that the glucose-excretion, instead of being diminished, actually increased. This matter was referred to editorially in The Journal, Nov. 9, 1912, under the title, "A Possible Fallacy in Testing Diabetic Urine."

Specimens of Expurgo Anti-Diabetes were examined in the Association's laboratory and the chemist's report follows:

LABORATORY REPORT

"The specimen of Expurgo Anti-Diabetes (Sanol's Anti-Diabetes) examined, was a light-brown, opaque liquid, having a faintly aromatic odor and bitter taste. The specimen contained considerable amounts of brown, insoluble residue resembling the deposits often found in fluid extracts. The absence of ammonium salts, iodids, glycerin, hexamethylenamin, of antipyrin, pyramidon and similar substances and of such purgatives as aloes, frangula, rhubarb, etc., was indicated. Potent alkaloids such as aconitin, cocain, morphin and strychnin were not found. Qualitative tests indicated the presence of traces of phosphates, sulphates, reducing sugars, caffein and cinchona alkaloids. Alcohol was present only in traces. Small quantities of chlorids, sodium and a salicylate were found. The residue on drying amounted to 2.9 gm. in each 100 c.c. A determination of the salicylic acid indicated approximately 0.17 gm. in each 100 c.c., which is equivalent to less than 0.2 gm., of sodium salicylate per 100 c.c. (about 1 grain to the ounce). Evidently the preparation contains plant extractives in aqueous solution and small amounts of sodium salicylate and sodium chlorid."

Summed up, the chemist's report shows that Expurgo Anti-Diabetes is essentially a watery solution of plant extractives with small quantities of sodium salicylate and salt. The exploiters claim their stuff contains the fruit and bark of jambul, rosemary, star anise. and fluid extract of calamus, cinchona, cola, condurango and gentian. Since fluidextracts in general are strongly alcoholic and since the laboratory's analysis shows that the preparation contains only traces of alcohol, the fluidextracts of the various drugs, if present at all, must be in an infinitesimal amount.



Main Office, Winnipeg, Canada

THE EXPURGO MANUFACTURING CO.

FORMERLY THE SANOL MANUFACTURING CO.

PHARMACEUTICAL PREPARATIONS

838 WELLS STREET

EXPURGO LAPIS

EXPURGO ANTIDIABETES

EXPURGO BLOOD MIXTURE

Chicago,____________191___

The letter head of the Expurgo [illegible] the claim that Expurgo Anti-Diabetes [illegible] for diabetes." And this stuff is foisted [illegible] the medical press!

Jambul was in vogue as a remedy for diabetes about twenty years ago. It was tried and found wanting, and has long since been relegated to the therapeutic scrap heap. Sanol therefore, is but one more proprietary humbug, foisted on the profession under fraudulent claims, and having for its essential constituent a drug that has long been discarded by scientific men and resurrected for the purposes of quackery. Expurgo will probably be used by uncritical and unthinking physicians and its existence will be artificially prolonged through the venality of pseudo-medical journals. That the medical profession should tolerate such an evident fraud is not to its credit. There is no excuse, either moral or otherwise, for a physician giving his patients nostrums of whose composition he is ignorant, and that is what is done whenever Expurgo Anti-Diabetes is prescribed.

PRESCRIBING IN THE HOSPITAL

The following paragraphs are from a letter by the president of the visiting staff of a large hospital which is revising the entire question of drugs:

"We hope to eliminate many time-honored formulas, increase the simplicity of prescriptions, use only approved drugs, cultivate among the interns a rational drug therapy in line with the plans of the American Medical Association in that direction, etc.

"It has occurred to me that perhaps you could put us in touch with the hospitals that have already gone over this ground, or perhaps some individual physicians that you may know could help us in that direction."

We print the foregoing for two reasons: first, because we hope to learn of other hospitals which have taken this step, and second, because we trust it may arouse other institutions to make a revision of their methods.

The convenient but lazy and unscientific method of prescribing by number has a pernicious influence. Those who employ this method cannot adapt their prescribing to the individual patient. They prescribe a tonic mixture, giving perhaps three, four or more harmful or useless drugs for the sake of an effect that most probably could be obtained from one simple bitter. The morphin, or one of its derivatives, in the ordinary cough-mixture may be needed only for certain stages; only one or more of the other ingredients are wanted, but the "shotgun" mixture is given rather than write a special prescription. Students who have been trained to prescribe by such a method finally succumb to this habit, and when they enter practice are ready to accept the seductive mixtures of the nostrum-maker. Hence this practice is especially to be condemned when the hospital or dispensary is connected with a medical school. Its evil influence is then multiplied and intensified because it is exerted on the immature minds of students who are always ready to follow the example of their respected instructors. Teachers of pharmacology and clinicians may strive to counteract these influences by their teaching, but the better way is to do away with complicated, ready-to-order formularies altogether. A good rule for any institution to adopt in revising its formulas is embodied in the comment to Rule 10 of the Council on Pharmacy and Chemistry: "The combination of two or more remedies in a mixture must be considered contrary to scientific medicine unless a distinct reason exists for such combination."

Correspondence

The Histopathologic Loan Collection and Relieving the Curriculum

There appeared recently in The Journal (Jan. 10, 1914, p. 125) an article by Steensland and Weiskotten advocating the use of loan collections of slides in teaching pathologic histology, in preference to the method of *giving* to the class each year stained or unstained sections which become the permanent property of the students.

The question of histologic class material comes up now and then in every pathologic laboratory in which teaching is done. Since the choice of the plan of dealing with the problem is rather important, a discussion of the subject seems timely. Steensland and Weiskotten have presented clearly the advantages in the use of the loan collection in teaching, namely, that (1) there is a saving of time for both student and teacher (or technician); (2) the preparations are better stained and mounted, and therefore more satisfactory for demonstration and study, and (3) rare material that would be difficult to replace can be used year after year. They also point out that the practice which the students acquire in staining and mounting sections is not worth the time expended, and that students do not, as a rule, refer to their slides after the course is finished. The last statement may certainly be questioned; but one may grant practically all of the points which the authors make and yet not subscribe to their conclusion. There are at least two reasons, I think, why, in spite of recognized disadvantages, the plan of *giving*, and not lending, histologic preparations is to be preferred:

In the first place, the sense of ownership increases greatly the students' interest in the preparations, and thus indirectly in their work. I have been convinced of this from close observation, and from discussions of the question with third- and fourth-year students who, after having had experience with both methods, have been almost unanimous in opposition to the loan-collection plan. Since fifteen or twenty minutes should suffice for mounting four or five stained sections—the average number given out daily—it would seem that the better spirit and greater interest on the part of the students which the giving of the material undoubtedly induces is rather cheaply obtained.

In the second place, there is for the teacher a more serious objection to the loan-collection plan, namely, the natural encouragement that it gives to cut-and-dried teaching; the lecture is made to fit the slides. For example, if in the prepared collection there are several beautiful sets of slides of chronic nephritis, it is more than likely that these slides will be used year after year, for the effort at staining and mounting from forty to a hundred and fifty more slides from a single new kidney will discourage changes pretty effectively. When the sections are given to the students the same amount of preparation is required for old and for new specimens. The use of loan collections, then, almost invariably tends to make the course inelastic and non-progressive, a condition which, in this time of active investigation and progress in all fields of pathology, is certainly for the teacher and interested student most unfortunate.

Robert A. Lambert, M.D., New York.

A Probable Case of Anilin Poisoning

To the Editor:—Two painters working in the laboratories of the Harvard Medical School with an anilin black stain reported symptoms of poisoning at the end of the day. The formula for the stain which they were using was essentially that described in The Journal, Dec. 20, 1913, p. 2260. It will be remembered that when the solutions are applied and dried the surfaces are washed with hot soap-suds to bring out the black color. The surfaces on which the men were working were about 128 square feet, and it took eight hours to wash them thoroughly. During this time their hands were continually exposed to a hot solution of soap and the chemicals.

From the symptoms, it is entirely probable that they absorbed enough anilin through the skin to cause the poisoning. The men had a sudden onset of very marked general weakness, nausea, marked pallor and cyanotic lips. This condition lasted until nearly midnight in both cases, accompanied by heart symptoms, palpitation mainly, which were severe enough to cause them considerable uneasiness. Apparently as the heart became more normal these symptoms wore off, although one of them reported a violent headache with vomiting which lasted until early the next morning, while the other had a marked diarrhea which persisted throughout the next day. Both reported that the urine the next morning was dark-colored, "like blood." Neither called in a physician and both were able to work the next day. Rubber gloves were furnished them during the washing process and no further trouble was experienced.

E. G. Birge, M.D., Boston.

A Blackmailing Scheme

To the Editor:—I received a letter almost identical with the one given in The Journal, Jan. 10, 1913, p. 153. I answered it stating that I knew of no one who would produce abortion, but that a little later the woman might find a place to stay at the Salvation Army Rescue Home while her child was born. A few days later a western-looking, heavy-set man, clean shaven, about 38 years old, weighing about 165 pounds, having had some old injury to his left hand, called and between sobs and the free use of a handkerchief told me that his niece had bled to death three days before from a criminal operation, and in her hand-bag was found my name and a receipt for some ribbons from a near-by store. He showed me the picture of a girl picking apple-blossoms and asked me if I had ever seen her. I told him no, gave him back her letter and told him what I had written her. He said he believed me, but intended to do everything in his power to find the guilty party. That was all I saw of him that day, but he called several times the next few days to "report progress" and said that they had a woman detective calling on the doctors who stated to each doctor visited that the sister whom the doctor had operated on was not doing very well and wanted to know what was to be done. Each time this man called on me he tried to gain my sympathy by telling me he was so tired out that he was almost sick. The last time he called he seemed quite excited and said he had just received a telegram from home stating that his wife was dangerously ill and for him to return at once. He said he had not enough money for the trip and asked me to lend him the remainder. This I did, for which he gave me his note. This I have put away to remind me what an easy mark a doctor can be.

X. Y., St. Paul, Minn.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ACTION OF PIGMENT IN INDELIBLE PENCILS

To the Editor:—Particles from the common indelible pencil sometimes get into the eye, where they seem to excite a chemical action on the tissues. Children sometimes bite off and swallow the point. Please inform me with regard to the irritant and toxic action in these cases, and the proper method of dealing with them.

W. C. LIPSCOMB, M.D., Crockett, Tex.

ANSWER.—The substance used most commonly in indelible pencils is methyl violet. This is an antiseptic which is relatively non-toxic. Large doses, however, produce symptoms of poisoning. It is very doubtful if the amount of the point bitten off and swallowed by a child would produce any serious effects. If there is reason to think that the amount swallowed would do harm, an emetic followed by a purgative would be appropriate treatment. The available data are not sufficient to permit an estimate of the probable fatal dose. If a piece has got into the eye, it would seem to be sufficient to wash it out. The trace left would probably do no harm, as this substance has been used as an antiseptic for the eye.

PETROLEUM FOR CONSTIPATION

To the Editor:—1. What is the dose of petroleum used for constipation?

2. Must it be specially prepared?

O. O. KAFER, M.D., Edward, N. C.

ANSWER.—1. The dose is 30 c.c. or 1 ounce two or three times a day.

2. A purified petroleum answering to the official requirements for petrolatum liquidum should be employed. A crude article would be likely to produce too much irritation and might cause poisoning. The description of the official preparation, however, is somewhat loosely drawn, and will permit the use of a somewhat colored article, which may vary widely in specific gravity. A satisfactory product will probably be obtained if the prescription calls for Russian liquid petrolatum or Paraffinum liquidum, B. P.

REMOVAL OF TATTOO MARKS

To the Editor:—Please tell me what to do for tattoo marks. This mark is about 1 by 2 inches on the arm of a young woman.

E. S. SMITH, M.D., Macon, Mo.

ANSWER.—This question was answered fully in THE JOURNAL, Oct. 14, 1912, p. 895. The answer, in brief, is as follows:

> The methods of Variot and of Brault have been recommended for the removal of such marks. The principle in each is to excite an inflammatory process by means of chemical irritants so as to cause destruction of the superficial layers of the skin.
>
> Variot uses as an irritant silver tannate produced by tattooing in a strong solution of tannin and rubbing a silver nitrate pencil over the spot until it is blackened by the formation of silver tannate.
>
> Brault removes the marks by tattooing the surface with a solution of 30 parts of zinc chlorid to 40 parts of water. A slight crust forms after these applications, the spontaneous removal of which after two weeks is followed by a pink cicatrix which gradually becomes of normal color.

ROCKY MOUNTAIN SPOTTED FEVER—TYPHOID FEVER—SCARLET FEVER

To the Editor:—Kindly refer me to late literature regarding Rocky Mountain tick fever and the prophylactic serums and vaccines of typhoid and scarlet fever.

ROBERT W. KING, M.D., Victor, Ida.

ANSWER.—Following is a list of references to recent articles on these subjects:

ROCKY MOUNTAIN SPOTTED FEVER

Eradicating Rocky Mountain Spotted Fever, editorial, THE JOURNAL, Sept. 13, 1913, p. 871.

Rucker, W. C.: Problem of Rocky Mountain Spotted Fever, *Mil. Surgeon,* December, 1911.

Wallbrach, C. E.: Rocky Mountain Spotted Fever, *Colorado Med.*, September, 1912.

Heinemann, P. G., and Moore, J. J.: Experimental Therapy of Rocky Mountain Spotted Fever, *Jour. Infect. Dis.*, May, 1912; abstr., THE JOURNAL, July 13, 1912, p. 143.

Fricks, L. D.: Rocky Mountain Spotted Fever, Reprint from *Pub. Health-Rep.*, Aug. 8, 1913, No. 139, Superintendent of Documents, Washington, D. C., 5 cents.

McClintic, T. B.: Investigations of and Tick Eradication in Rocky Mountain Spotted Fever, Reprint from *Pub. Health Rep.*, No. 79, Superintendent of Documents, Washington, D. C., 5 cents.

Rucker, W. C.: Rocky Mountain Spotted Fever, Reprint from *Pub. Health Rep.,* No. 986, Superintendent of Documents, Washington, D. C., 5 cents.

PROPHYLACTIC VACCINATION IN TYPHOID

Russell, F. F.: Antityphoid Vaccination in Children, THE JOURNAL, Feb. 1, 1913, p. 344.

Russell, F. F.: Progress in Antityphoid Vaccination During 1912, THE JOURNAL, Aug. 30, 1913, p. 666.

Spooner, L. H.: Antityphoid Inoculation; Three Years' Experience with Its Use in Training-Schools for Nurses in Massachusetts, THE JOURNAL, Oct. 12, 1912, p. 1359.

Russell, F. F.: Some Results and Fields of Usefulness of Antityphoid Vaccination, THE JOURNAL, Oct. 12, 1912, p. 1362.

Hachtel, E. W., and Stoner, H. W.: Inoculation Against Typhoid, THE JOURNAL, Oct. 12, 1912, *p.* 1364.

Weston, P. G.: The Immunization Against Typhoid of 898 Patients in an Institution, THE JOURNAL, Oct. 26, 1912, p. 1536.

Phalen, J. M.: Vaccine Inoculation, Prophylactic and Curative, of Typhoid Fever, THE JOURNAL, Jan. 6, 1912, p. 9.

Agglutination Reaction Before and After Antityphoid Vaccination, THE JOURNAL, Feb. 10, 1912, p. 416.

Davis, D. J.: Antityphoid Vaccination, THE JOURNAL, Feb. 24, 1912 p. 537.

Russell, F. F.: Results of Antityphoid Vaccination in the Army in 1911 and Its Suitability for Use in Civil Communities, THE JOURNAL, May 4, 1912, p. 1331.

Maverick, A.: Typhoid Vaccination and the Widal Reaction, THE JOURNAL, June 29, 1912, p. 2034.

A list of articles on the serotherapy of typhoid is given in the second part of:

Oleozone—Serotherapy of Typhoid, Queries and Minor Notes, THE JOURNAL, Oct. 21, 1911, p. 1386.

SEROTHERAPY OF SCARLET FEVER

Shick, B.: Serotherapy of Scarlet Fever, *Therap. Monatsh.*, 1912, xxvi, No. 4.

Reiss, E., and Jungmann, P.: Serotherapy in Scarlet Fever, *Deutsch. Arch. f. klin. Med.*, 1912, cvi, Nos. 1 and 2.

Lewkowicz, X.: Serotherapy of Scarlet Fever, *Monatsh. f. Kinderh.*, 1912, x, No. 12.

Szekeres, O.: Serotherapy of Scarlet Fever, *Wien. klin. Wchnschr.*, June 13, 1912.

Reiss, E.: Serotherapy of Scarlet Fever, *Therap. Monatsh.*, 1913, xxvii, No. 6; abstr., THE JOURNAL, July 12, 1913, p. 157.

FORMALDEHYD FUMIGATION

To the Editor:—1. Which is the best method of formaldehyd fumigation: formaldehyd candles, formaldehyd candles with water, formalin solution 40 per cent. in generator or formalin solution 40 per cent. in generator with potassium permanganate? Candles are on the market that are said to be sufficient for 1,000 cubic feet. Are these efficient under ordinary conditions for use in fumigation of dwellings?

2. In conducting bacteriologic tests of formaldehyd fumigation which bacteria should be used as a standard: typhoid, diphtheria, streptococci, staphylococci, colon, or others?

A. H. CALHOUN, M.D., Canton, Ohio.

ANSWER.—1. The method to be recommended is the use of liquor formaldehydi, U. S. P., with potassium permanganate. Our correspondent appears to use the term "formalin" as equivalent to formaldehyd. Formalin in fact is a proprietary solution of formaldehyd containing about 40 per cent. of formaldehyd gas and hence equivalent to liquor formaldehydi, U. S. P.

2. Any one of the organisms mentioned could be used as a test of the efficiency of the disinfection, but the *Bacillus prodigiosus* is the organism usually preferred. The control of the disinfection is accomplished by exposing threads soaked in a culture of *Bacillus prodigiosus*. After the disinfection is completed, these threads are inoculated into Dunham's peptone. If any of the bacilli have survived, the fact will be indicated by the red color of the peptone solution.

LITERATURE ON TRANSMISSION OF DISEASE BY INSECTS

To the Editor:—I should like to have some literature on the transmission of diseases by insects. Can you refer me to any?

F. S. Martin, M.D., Beaumont, Tex.

Answer.—Following is a list of articles on various phases of this subject:

THE HOUSE-FLY

Howard, L. O.: The House-Fly: Disease Carrier, New York, F. A. Stokes Company, 1911, contains an excellent bibliography.
Doane, R. W.: Insects and Disease, New York, Henry Holt & Co., 1910.
Rose, H. H.: Reduction of Domestic Flies, J. B. Lippincott Company, Philadelphia, 1913, price $1.50.
Hodge, C. F.: How You Can Make Your Home, Town or City Flyless, Nature and Culture, 4 West Seventh Street, Cincinnati. Price, 2 cents.
Stockbridge, Frank P.: How to Get Rid of Flies, World's Work, April, 1912.

THE BEDBUG

The Housefly and the B. B., editorial, The Journal, June 29, 1912, p. 2036.
Sergeois, E.: Bedbugs as Carriers of Disease, *Arch. f. Kinderh.*, 1912, lvii; abstr., The Journal, Feb. 24, 1912, p. 594.
Manning, J. C.: Bedbugs and Bubonic Plague, *Med. Rec.*, July 27, 1912.
Riggs, R. E.: Bedbugs as Carriers of Typhoid, *Military Surg.*, September, 1912.

THE WOODTICK

Ricketts, H. T.: The Transmission of Rocky Mountain Spotted Fever by the Bite of the Wood Tick (Dermacentor Occidentalis), The Journal, Aug. 4, 1906, p. 358.
Ricketts, H T.: Further Observations on Rocky Mountain Spotted Fever and Dermacentor Occidentalis, The Journal, Oct. 6, 1906, p. 1067.
Pearse, H. A.: Tick, or Rocky Mountain Spotted Fever, *Denver Med. Times and Utah Med. Jour.*, February, 1909.

OTHER INSECTS

Queries and Minor Notes, The Journal, Oct. 19, 1912, p. 1473; June 24, 1911, p. 1900; Sept. 22, 1911, p. 1076; Nov. 9, 1912, p. 1733, and April 19, 1913, p. 1245.
Doty: The Mosquito: Its Relation to Disease and Its Extermination, New York, Daniel Appleton & Co., 1912, price 75 cents.

ARTICLES ON MEDICAL EDUCATION

To the Editor:—A member of our high-school faculty is preparing to give a series of lectures to the students on the choice of a vocation, expecting to present to them a picture of what is required in the way of education and the future of the various professions and trades. A number of good articles along this line, especially the educational side, have appeared in The Journal within the past year or two; can you give me a list of the articles that you think would be of assistance to him? I expect to place my Journal files at his disposal. C. R. Zener, M.D., Wenatchee, Wash.

Answer.—Following is a list of references to the subject of medical education which have recently appeared in The Journal:

Meltzer, L. J.: The Training of the Desirable Practitioner and His Mission, Aug. 24, 1912, p. 585.
Dodson, J. M.: The Addition of a Fifth Year to the Medical Curriculum, Aug. 24, 1912, p. 589.
Educational Numbers, Aug. 24, 1912, and April 5, 1913.
Adami, J. G.: The Future of the Medical Man, Aug. 23, 1913, p. 526.
Pratt, F. H.: Teacher and Learner in Medicine, Aug. 30, 1913, p. 646.
Guthrie, G. W.: The Passing of the Family Doctor, Nov. 8, 1913, p. 1710.
Bevan, A. D.: Medical Education and the Hospitals, March 29, 1913, p. 974.

BIEBRICH SCARLET STAIN IN DIABETES

To the Editor:—Please describe the method of making a Biebrich scarlet stain of the blood in diabetes.

E. C. Hayman, M.D., Lincoln, Neb.

Answer.—The technic of making a Biebrich scarlet stain of the blood in the determination of diabetes is as follows: Make thick smears of the blood, in the usual way, on glass slides. Allow to dry in the air and fix over the flame. Cover the smears with a 1 per cent. aqueous solution of Biebrich scarlet and allow to remain for a few minutes. Rinse lightly in water and dry. Smears stained in this way will show an intense red if the blood is taken from a diabetic, while normal blood is unstained.

REQUEST FOR REPORTS OF WORK ON PREVENTION OF BLINDNESS

To the Editor:—Through The Journal I desire to ask societies and individuals in the United States engaged in the work for prevention of blindness kindly to forward me reports of this work, or at least to give me the addresses of such societies or individuals. There is no organized work of this sort in the Territory of Hawaii. H. P. Nottage, M.D., 31 Young Building, Honolulu. T. H.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, *Medical Defense, and Other* Medicolegal and Economic Questions of Interest to Physicians

HARRISON OPIUM BILLS

In The Journal for Aug. 2, 1913, page 360, there appeared an article which outlined in brief H. R. 1967, H. R. 1966 and H. R. 6282 or the "Harrison opium bills," so-called.

All three measures were passed by the House during the special session of Congress last summer, and were referred to the Senate for its concurrence. The first two of these three bills, that is, H. R. 1967 and H. R. 1966, were, according to the *Congressional Record*, Jan. 12, 1914, page 1566, passed by the Senate with slight amendment and returned to the House. Then on the same day, January 12, the lower legislative body by an affirmative vote concurred in the bills as amended so that the two measures await but the signature of the President prior to finally becoming the law.

From the *Record*, it would appear that H. R. 1967, the bill intended to prevent the manufacture of smoking-opium in the United States, was amended by the Senate in chiefly two points, namely, the tax per pound on smoking-opium manufactured in the United States is increased from $200 to $300, and the definition of smoking-opium is broadened in order to include a larger field.

H. R. 1966, the bill intended to prevent the importation of opium for other than medicinal purposes, was likewise amended, but in what regard is not shown in the *Record.*

H. R. 6282, the bill requiring the registration and taxation of physicians and others dealing in habit-forming drugs is, according to latest reports, still in the finance committee of the Senate.

SOCIALIZATION OF MEDICINE IN ENGLAND

Discussion of the British insurance act, its operation and its influence on the practice of medicine, continues to be the most important subject for consideration in the British medical journals. This importance is emphasized by the leading editorial in the first number of the *Lancet* for the new year. Under the title "Humanism and Medicine," the *Lancet* discusses the situation from a sociologic and economic rather than a professional point of view. Starting with the assertion that "the calling of medicine is passing through a very anxious phase," the *Lancet* asserts that the present legislation for national insurance against sickness must be regarded as a phase in the development of medical practice, and that while the machinery and methods by which this development has been brought about may be criticized, and may even be regarded as retrogressive, yet it must be admitted that it has brought about a wider understanding by the public of the essential part that medicine must play in social reform. Using the term "medicine" to designate the work of the scientific medical profession in its widest sense, the writer asserts that the outlook is not one of gloom, but that, on the contrary, the public is demanding that physicians in every branch of their calling should assist in the improvement of the social, moral and physical conditions of the state. One of the most remarkable evidences of the increasing influence of medicine is that a medical side to all things is making its appearance, and that it is being recognized that medicine is essentially one of the branches of human learning that requires the cooperation of humanity in its development. In an interesting comparison between the development of classical learning during the sixteenth century and of scientific knowledge during the nineteenth century, the editor asserts that, previous to the development of modern scientific knowledge, the classics were cultivated because of a conviction that in them was found general instruction in the affairs of life which would be of value to a man in any position of responsibility or service; but to-day, while a classical education still remains valuable, the subjects on which the public instinctively seeks knowledge are those of the natural sciences. With the spread of scientific knowledge it will inevitably follow that the principles of medicine will become familiar to the educated classes, and that this will have a beneficial effect, as true scientific medicine must ever be found on the side of peaceful reform. Enumerating the results already secured, it is pointed out that war between civilized nations is at present more difficult and more easily avoided, because rulers and counselors know that the conditions of warfare are such as to defy the principles of common humanity and cause an enormous amount of avoidable suffering. A growing knowledge of diseases is altering practical geography, as in the case of the construction of the Panama Canal, the control of tropical diseases and the facilitation of commerce and development. Social reform in all nations is based on the teachings of hygiene, whether directed toward eugenics, education or the control or abolition of poverty and disease. The *Lancet* editorial is noteworthy for its far-sighted and clear view, and for its realization of the fact that medicine is becoming socialized, and that the medical profession must alter its methods to conform to this change. That the future of the profession, not only in Great Britain but also throughout the civilized world, will be far greater than its present sphere, admits of no question.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

KANSAS: Topeka, Feb. 9-11. Sec., Dr. H. A. Dykes, Lebanon.

MISSOURI: Jefferson Hotel, St. Louis, Feb. 9-11. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEBRASKA: Lincoln, Feb. 11. Sec., Dr. H. B. Cummins, Seward.

NEW YORK: Jan. 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Albany.

New Hampshire Reciprocity Report

Mr. H. C. Morrison, regent of the New Hampshire State Board of Medical Examiners, reports that 4 candidates were licensed through reciprocity from Jan. 1 to Dec. 31, 1913. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1908)	Wisconsin
Maryland Medical College	(1912)	W. Virginia
Hahnemann Med. Coll. and Hosp., Philadelphia	(1909)	New Jersey
University of Vermont	(1897)	Vermont

Mississippi October Report

Dr. E. H. Galloway, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, Oct. 28-29, 1913. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 33, of whom 19 passed and 13 failed. For one candidate the report is not yet complete. Four candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1913)	78
Atlanta College of Physicians and Surgeons	(1913)	82
Tulane University, (1910) 80; (1912) 83+,	(1913)	75, 78, 82, 83
Columbia University, College of Phys. and Surg.	(1913)	86, 88
Medical College of Ohio	(1890)	81
Jefferson Medical College (1910) 84;	(1913)	87
Meharry Medical College	(1913)	77
Memphis Hospital Medical College (1904) 75; (1912) 75;	(1913)	76, 79.
University of Tennessee	(1913)	75

FAILED

College	Year Grad.	Per Cent.
University of Alabama	(1913)	69
Reliance Medical College	(1911)	56
Tulane University	(1913)	71
Mississippi Medical College	(1909)	72
Meharry Medical College (1907) 63;	(1911)	65
Memphis Hospital Medical Coll. (1912) 63;	(1913)	64, 70, 73
University of Nashville	(1906)	71
University of Tennessee (1912) 70;	(1913)	70

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Woman's Med. School	(1888)	Virginia
University of Louisville	(1897)	W. Virginia
Memphis Hospital Med. Coll. (1905) Tennessee;	(1908)	Tennessee

Utah October Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, Oct. 6-7, 1913. The number of subjects examined in was 19; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1913)	80.8, 82.1
College of Physicians and Surgeons, Baltimore	(1913)	75.8
Johns Hopkins University	(1913)	84.3
Jefferson Medical College	(1913)	83.9

Utah January Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, Jan. 5, 1914. The number of subjects examined in was 19; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 6, of whom 5 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine (1906) 87;	(1908)	79
St. Louis University School of Medicine	(1913)	81.4, 85.7
Columbia University	(1913)	84.3

FAILED

College	Year Grad.	Per Cent.
Chicago Physio-Medical College	(1897)	62.2

Oklahoma October Report

Dr. John W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Muskogee, Oct. 14-16, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 9, of whom 8 passed and 1 failed. Thirteen candidates, including 1 osteopath, were licensed through reciprocity since July, 1913. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1913)	86
Bennett Medical College	(1913)	86
University of Illinois	(1912)	78
Tulane University	(1913)	78
University of Michigan, Dept. of Med. and Surg.	(1913)	84
University of Oklahoma	(1913)	83
Jefferson Medical College	(1911)	84
Baylor University, College of Medicine	(1913)	71

FAILED

College	Year Grad.	Per Cent.
College of Med. and Surg., Physiomedical, Chicago	(1903)	54

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Arkansas	(1912)	Arkansas
Atlanta College of Physicians and Surgeons	(1902)	Texas, (1902) Mississippi.
Georgia Coll. of Eclectic Med. and Surg.	(1880)	Arkansas
Bennett College of Eclectic Med. and Surgery	(1879)	New Mexico
Kentucky University, Medical Dept.	(1905)	W. Virginia
University of Louisville (1910) Mississippi,	(1911)	Texas
Barnes Medical College	(1896)	Arkansas
St. Louis College of Physicians and Surgeons	(1888)	Texas
Memphis Hospital Medical College	(1912)	Texas
Southwestern University Medical College	(1905)	Arkansas

ANATOMY AND HISTOLOGY

1. Give a short description of the histological structure of bone. 2. Describe and give usual situation of Peyer's patches. 3. What kind of epithelium covers (a) the pleura, (b) the mucous membrane lining the air passages? 4. How would you distinguish a cervical from a dorsal vertebra? 5. Describe the hip joint. Why is there frequently pain about the knee in hip joint disease? 6. Give origin, course, relation to its fellow and the distribution of the optic nerve. 7. At what point does the spinal cord terminate? 8. Give the origin, the course and the principal branches of the great sciatic nerve. 9. Give the origin and the principal branches

of the pneumogastric nerve. 10. Describe the saphenous opening. In what directions would you make taxis in reducing a femoral hernia?

BACTERIOLOGY AND PATHOLOGY

1. Describe the pathological changes that take place in arteriosclerosis. Give the most common cause for same. 2. Name three forms of pulmonary emphysema. Give pathology of each form. 3. Define and give pathology of phlebitis. 4. What is pneumonokoniosis? Give pathology of same. 5. Name three forms of pleurisy. Give pathology of each form. 6. Give method of staining the bacilli of typhoid fever and tuberculosis.. 7. Name four varieties of eczema. Give pathology of each form. 8. Define pathogenic bacteria and name three pathogenic diplococci. 9. Name three methods by which you can determine whether an organ is or is not pathogenic. 10. Name and describe two tests in diagnosing a suspected case of tuberculosis.

CHEMISTRY

1. What are the normal salts; acid salts; basic salts; double salts? 2. Convert Centigrade into Fahrenheit. 3. Complete the equation, $2AgNO_3+2NaOH=?$ 4. What is an element and show what element is common in all acids. 5. Give two tests for morphin. 6. Define allotropism and osmosis. 7. What are albuminoids? Name some of the important albuminoids. 8. Name the halogens and state in what respect they exhibit marked similarity. 9. Give antidotes for strychnine poisoning, also for iodine poisoning. 10. Give Haine's test and the heat and nitric acid tests for urine.

PHYSIOLOGY

1. Define irritability as applied to muscle and nerve, and classify irritants. 2. Is it possible for the human stomach to be digested by its own gastric secretions? If so, under what conditions? 3. What keeps the blood from coagulating in the vessels, and what causes it to coagulate when shed? 4. Describe the mechanism and function of the semilunar valves and tell which one contributes to the second sound of the heart. 5. Name eight conditions affecting body temperature. 6. Give deep origin and distribution of one cranial nerve that has motor function only. 7. Give distribution and function of the tenth cranial nerve. 8. What effect does the injection of atropin into the blood have on the secretion of the salivary glands? 9. Tell the difference between chyle and chyme. 10. The removal of what digestive organ would cause excessive sugar in the urine and death in a short time?

OBSTETRICS AND HYGIENE

1. Differentiate between position and presentation. 2. Name three acute diseases of the mother that endanger the life of the fetus. State the danger to fetus and what steps you would take to prevent it. 3. If on making your first examination of a case of labor you should find a complete placenta previa what would be your line of treatment? 4. What would be your treatment in a case of eclampsia earlier than the eighth month of pregnancy? 5. How would you determine that a fetus was at full term when born? 6. What is the most common cause of a chill on the third day after delivery? What treatment would you use and what precautions to prevent it? 7. What are the symptoms most prominent in extra-uterine pregnancy? 8. How would you conduct a case of post partum hemorrhage? 9. What are the most common pollutions of well water? How free a well from same? 10. What are the best agents for disinfecting a room where small-pox had been treated? How would you proceed?

MATERIA MEDICA AND PRACTICE

1. Give indications for the use of ergot. What is the effect of a toxic dose? 2. Give indications for the use of quinine. How may it effect those having an idiosyncrasy for the drug? 3. Differentiate a functi[illegible] from an organic lesion. 4. Differentiate intercost[illegible]isy. 5. Diagnose and treat apoplexy. 6. Give [illegible] of diphtheria. Typhoid fever. 7. How is iodin obtained? Name some of its uses. 8. In what conditions would you use a poultice? Why? 9. Give indications for the use of veratrum viride. 10. Cerebrospinal meningitis. Give etiology, diagnosis and treatment.

GYNECOLOGY

1. Give etiology and treatment of dysmenorrhea. 2. Diagnose and treat carcinoma of cervix. 3. Name the causes of sterility. 4. Treat gonorrheal endometritis. 5. Diagnose extra-uterine pregnancy before rupture. 6. Give etiology and treatment of amenorrhea. 7. Diagnose and treat uterine polypus. 8. Diagnose carcinoma of the breast. 9. What conditions may result from gonorrhea in women? 10. Differentiate malignant, tubercular and syphilitic ulcer of vagina.

TOXICOLOGY AND MEDICAL JURISPRUDENCE

1. In what diseases is the Argyll Robertson pupil always present? 2. Name fatal dose of zinc chlorid; fatal period and treatment. 3. Name fatal dose of strychnin; fatal period; treatment and post-mortem appearance. 4. Name fatal dose of opium; fatal period and treatment. 5. Name fatal dose of tr. digitalis; fatal period. 6. What is paranoia? Paretic dementia? 7. What is criminal abortion? 8. Give important symptoms of death by throttling: face, mouth, tongue, skin. Post-mortem; heart, lungs, stomach, etc. 9. Give post-mortem findings in death from carbolic acid poisoning. 10. What are the necessary proceedings for the pauper insane?

SURGERY

1. Give the etiology, varieties and symptoms of erysipelas. 2. Describe the surgical methods for the reestablishment of joint functions in confirmed ankylosis. 3. Mention the inflammatory diseases of the bones. 4. What is shock, and how should it be treated? 5. What agents are employed for the production of local anesthesia? 6. What articular changes take place in dislocation? What are the general principles governing the treatment of dislocations? 7. How would you diagnose and treat a case of fracture of both bones of the forearm, occurring at the middle third? 8. What tissues are divided in the operation for oblique inguinal hernia? 9. Differentially diagnose phimosis and gonorrhea from phimosis and subpreputial chancroid. 10. When do the secondary symptoms of syphilis normally appear? What are these symptoms? When do the tertiary symptoms appear?

PHYSICAL DIAGNOSIS

1. What do you understand by the establishment and failure of compensation in valvular heart disease? 2. How many periods or stages are usually met with in the progress of a case of valvular heart disease relative to compensation and failure? Name them. 3. Give some of the common causes of jaundice and the significance of jaundice as a diagnostic symptom. 4. Name diseases in which the knee-jerk is almost absent or completely abolished. 5. What can be felt beneath the normal abdominal walls? 6. Give local signs of appendicitis. 7. Name the five methods usually adopted in examining the thoracic organs. 8. What is understood by asthmatic breathing? By Cheyne-Stokes breathing? By restrained or catchy breathing? By stridulous breathing? 9. Give diagnosis of bronchial pneumonia. 10. What is a crepitant râle?

Book Notices

Principles and Practice of Medical Hydrology. Being the Science of Treatment by Waters and Baths. By R. Fortescue Fox, M.D., F.R., Met. Soc. Cloth. Price, $2. Pp. 295. New York: Oxford *University Press, 1913.*

This book discusses the physiology of bathing, hydrotherapy, mineral springs and baths and the indications for hydrologic treatment. In its preparation Fox has made use of the Hyde lectures of 1911 and other contributions which he has made to balneology. He practiced for twenty years at a British spa, and has produced a volume that is readable, instructive, systematic and founded on sound physiology. He says of spa treatment that it is a vain and fruitless ambition for any locality to introduce and exploit all the methods of other places. *It is not the number of treatments that counts, but* their quality and the skill and discrimination with which they are applied. He remarks that the employment of baths after rheumatic fever is liable to be followed by cardiac debility, and the effect of temperature should be carefully watched. The insidious progressive polyarthritis of young subjects, which is doubtless infective, is accompanied by a profound debility and can seldom, in the judgment of Dr. Fox, be submitted to any form of spa treatment. On the other hand, the arthritis supervening in middle life, always associated with faulty metabolism or defective elimination, clearly marks it out for treatment by waters and baths. The cardinal rule of treatment divides rheumatic cases into two classes—those which require a sedative and those which require a stimulant and intensive treatment. The book abounds in sound, practical advice, and affords help where it is greatly needed. It closes with an index of waters and baths for the guidance of practitioners in selecting spas or medicinal springs for their patients.

Book on the Physician Himself and Things that Concern His Reputation and Success. By D. W. Cathell, M.D., and William T. Cathell, A.M. M.D. Twelfth and Final Edition. Cloth. *Price, $2.50. Pp. 407. Philadelphia: F. A. Davis Company.* 1913.

"The Physician Himself" first appeared in 1882. It was then a comparatively small book. It has grown larger with each edition, until now it is quite a pretentious volume. The title page of this edition carries the statement that it is "the twelfth and final edition." It is seldom that the word "final" is used in such a way, and it is to be hoped that the statement will prove to have been premature. While the book has increased in size with each edition, it has also improved in character, on the principle of the more good things the better. It contains excellent advice and comments on the physician's work, his relations to the profession and to the public, etc. While here and there the views expressed or the comments may not receive the endorsement of every one, on the whole they are excellent. The book is full of good things and good advice, especially for the young physician.

Artificial Parthenogenesis and Fertilization. By Jacques Loeb, Member of the Rockefeller Institute for Medical Research. Translated from the German by W. O. Redman King, B.A., Assistant Lecturer in Zoology at the University of Leeds. Cloth. Price, $2.50. Pp. 312, with 87 illustrations. Chicago: The University of Chicago Press, 1913.

This is essentially a critical summary of Dr. Loeb's work in artificial parthenogenesis. It gives a survey of the methods by which the unfertilized egg (of invertebrates and of vertebrates) can be caused to develop into an embryo, and the conclusions which can be drawn concerning the mechanism by which the spermatozoon produces this effect. Dr. Loeb believes that the fertilization of the egg by the spermatozoon involves two factors, one of the processes being akin to cytolysis, the other (designated the "corrective factor") causing a temporary depression of the oxidation in the egg. Both of these factors are probably independent of the material in the spermatozoon that serves as the vehicle of paternal heredity.

The problem of fertilization is intimately connected with many different problems of physiology and pathology, such as the natural death of the unfertilized egg and the prolongation of its life by fertilization, the fertilization of the egg by foreign blood and the immunity of the egg to the blood of its own species, and the relation between heterogenous hybridization and artificial parthenogenesis. The facts recorded and discussed in the book therefore go beyond the special problem indicated by the title.

The field of artificial parthenogenesis was opened and is to-day essentially dominated by the work of Dr. Loeb and his students, which constitutes one of the most important contributions to cellular physiology of all time. We believe that Dr. Loeb's work will be of greater value in the field of pathologic physiology (growth of tumors) than in the field of normal fertilization and development, and it is to be egretted that the relation of artificial parthenogenesis to umor formation is not discussed at some length in the book. The details of Dr. Loeb's contribution to science are well known to the workers in dynamic biology and physiology. They should be just as familiar to the pathologist and the nternist.

A MANUAL OF SURGERY FOR STUDENTS AND PHYSICIANS. By Francis T. Stewart, M.D., Professor of Clinical Surgery, Jefferson Medcal College. Third Edition. Cloth. Price, $4 net. Pp. 742, with 571 illustrations. Philadelphia: P. Blakiston's Son & Co., 1913.

The appearance of a third edition so soon after the pubication of the second is evidence of the popularity of this book. It is essentially a manual, stripped of unnecessary words and matter, and is therefore a good book for everyday use. Much information is crowded into it, although for fuller discussions, larger and more complete works on surgery must be consulted. The first chapter of this edition is devoted to diagnosis and the Roentgen ray, a decided innovation in text-books on surgery. The text is by no means exhaustive, but nevertheless is of value. Only fourteen pages are devoted to anesthesia, but every known method is discussed, the open ether method being given the preference. Surgical bacteriology, surgical technic, bandaging and surgical pathology are dealt with in an admirably concise but instructive manner. The surgical lesions of each system and viscus are discussed in the succeeding chapter and many illustrations are used to clarify the text. Only one fault is to be found with the book and that is a mechanical one: the type is too small and is set too closely. The eye is tired quickly, and better-made books are apt to be consulted.

UEBER DAS SINNESLEBEN DES NEUGEBORENEN. (Nach physiologischen Experimenten.) Von Dr. Silvio Canestrin, Assistent der Nervenklinik in Graz. Paper. Price, 6 marks. Pp. 104, with 60 illustrations. Berlin: Julius Springer, 1913.

This is a contribution to the psychophysiology of the newborn by means of exact laboratory experiments. Contrary to the older methods of study which made use of the infant's behavior as indicative of pleasure or pain, the author utilizes the differences in the cerebral pulsations and the respiratory curves which occur as a result of various stimuli on the senses, and makes graphic records of these. To prove that a mere look at the child is not sufficient to indicate the inner workings of its primitive psyche, Canestrini cites the following experience: He had occasion to observe a sleeping infant react to acoustic stimuli (the blowing of a trumpet) by an increase in cerebral pulsations and a decrease of the respiratory rhythm, while it continued to sleep, and gave no other visible sign of auditory stimulation. This chance observation led him to undertake a series of experiments on the primitive special senses of the infant, which he recorded. While his results are not far-reaching in their bearings on a correct understanding of the development of human intelligence, they constitute a modest beginning in our recognition of the elementary relations between matter and mind as we can observe them experimentally in earliest infancy. It is possible, as it were, to see the mind grow by external stimulation. The book is worth reading and the experiments worthy of repetition.

DISEASES OF THE STOMACH. Including Dietetic and Medicinal Treatment By George Roe Lockwood, M.D., Professor of Clinical Medicine in Columbia University. Cloth. Price, $5.50 net. Pp. 624, with 141 illustrations. Philadelphia: Lea & Febiger, 1913.

This is an excellent presentation of the subject. The book is not loaded with the extra chapters devoted to anatomy, histology and physiology usually found in such monographs. The author devotes his energy to a discussion of diseases of the stomach and to an account of his own experience in diagnosing and treating them. The detail and thoroughness of the discussion of individual topics is shown by the fact that more than a hundred pages are devoted to a consideration of acute and chronic ulcer and as much more space to malignant and benign tumors or growths in the stomach. Modern methods of diagnosis are described as they are applicable to each disease. Especially helpful are the numerous reproductions of roentgenograms and the discussions of their value in the diagnosis of various diseases of the stomach. This feature is timely and adds greatly to the value of the book, as such discussions have not yet found a place in many of the systematic monographs on diseases of the stomach.

DIE RASSENHYGIENE IN DEN VEREINIGTEN STAATEN VON NORDAMERIKA. Von Géza von Hoffmann, k. u. k. österr.-ungar. Vizekonsul. Paper. Price, 5 marks. Pp. 237. Munich: J. F. Lehmanns, 1913.

This is a popular presentation of the various activities in this country of a eugenic nature with a view to stimulating among *Europeans a greater interest in the eugenic movement.* The author is deeply and favorably impressed with what is being done in that direction in the United States. For the benefit of the German reader there is appended a bibliography of seven hundred titles of American articles and publications in regard to sex hygiene and eugenics, which may be useful to Americans also. American physicians and others will read this book with interest, as it is a sincere effort to give a trustworthy picture of what is being done in the lines indicated.

Miscellany

The Economic Value of Scientific Research.—A lecture on this subject was delivered under the auspices of the Science Association of the Adelaide University, August 6, by Dr. T. B. Robertson, a graduate of the university, now professor of physiologic chemistry in the University of California. The lecturer discussed the questions: 1. Is money expended in furthering scientific research a good investment? 2. What is the actual profit which the world reaps from such investments? 3. Does the money at present expended on scientific research bear any adequate proportion to the profit which may be expected to accrue? In dealing with the first and second questions, Dr. Robertson pointed out that the invention of the electric motor, which resulted from a discovery of Faraday, of which the cost was negligible, had rendered possible the utilization of water-power at a distance. In its waterfalls the United States possessed 37,000,000 potential horse-power, which at about $20 per horse-power per annum, was equal to a yearly income, not yet realized, of about $700,000,000, corresponding at 3 per cent. interest to a capital value of about $24,000,000,000. The total receipts of all the higher institutions of learning in the United States in 1910, was only about $75,000,000, corresponding to a capital investment of about $2,500,000,000. Only a fraction of this was spent in scientific training, and an insignificant fraction of that in research. Yet the inventions which were the consequence of this training and research were worth about $365,000,000 per annum The total endowment of the Rockefeller Institute, the greatest institute for medical research in the world, was only about $4,000,000 Yet in a few years of its existence it had already given them the means of curing two of the greatest scourges of humanity—cerebrospinal meningitis and pneumonia There was at present absolutely no means of automatically securing to scientific research a proportion, however minute, of the wealth it produced A small proportion, even if it were only a few tenths of a per cent of the income proceeding from the utilization of patented inventions, might be appropriated by the state and employed to endow scientific research —*Australasian Med Gaz.*

The Antivivisectionists —The antivivisectionists are having a riotously good time this week (December, 1913) They are assembled in national conclave, and, with the newspapers relaying to the public all they say, each member is outvying the other in wild and irresponsible statements One speaker declared that 33 per cent of the doctors were addicted to the use of drugs It is an appalling statement One doctor in every three has the drug habit! But the most remarkable part of the statement is how a man without the use of drugs could make it

The gentleman who gave a third of our physicians hypothetical injections was soon outdone by some of his colleagues It was jauntily declared that children were being vivisected in New York hospitals and places of medical research The statement was enthusiastically applauded and evidently believed But this orgy of wild statements is nothing new. It is but a repetition of the riot of ignorance that fought every step of medicine's progress in the prevention of smallpox epidemics during the nineteenth century

Vivisection has been made practically painless But even if it had not, it is better that every guinea pig in Ohio should be utilized for experimentation than that your child should die of diphtheria From vivisection we have secured not only the antitoxin that has deprived diphtheria of its terrors, but typhoid vaccine and the serum for the dread disease, spinal meningitis But we have not the space to catalogue the achievements of vivisection Suffice it to say that the wonderful sanitary conditions prevailing in Panama and the canal itself would not have been possible without animal experimentation

The antivivisectionists have been called sentimentalists But which are the true sentimentalists—the physicians who seek scientific truth in a laboratory that they may conserve the life and health of human beings, or the men and women who much prefer the safety of guinea pigs and frogs?—*Cincinnati Times Star.*

Unlicensed Physicians —The secretary of the State Board of Health of West Virginia, according to the *West Virginia Medical Journal*, recently addressed a communication to the attorney general of the state on two interesting questions in connection with the practice of medicine by unlicensed practitioners In that state, it appears, it has been the custom for certain unlicensed physicians to practice under the protection of licensed practitioners, and it is said that the opinion seemed to prevail that this could be legally done The attorney general in his opinion on this point held that an unlicensed physician has no legal right to practice medicine and surgery under the protection of a regularly licensed practitioner either in the same office with him or at any other place Since it has been the experience in West Virginia that in attempting to prosecute unlicensed or irregular practitioners public prosecuting attorneys have declined to conduct such prosecutions, the secretary of the State Board of Health asked the attorney general what recourse the board had against this refusal on the part of the prosecuting attorneys The attorney general said

"If the prosecuting attorney declines to prosecute an unlicensed practitioner when his attention is called to the same by the State Board of Health, the state board should report the fact to the circuit court of the county, and proceedings should be instituted . . to remove him from office."

The law under which proceedings could be instituted is a general one, which provides that if any prosecuting attorney shall compromise or suppress any indictment or presentment without the consent of the court entered of record, he would be guilty of malfeasance in office and may be removed therefrom in the mode prescribed by law. Similar provisions as to malfeasance are in existence in every state, and prosecuting attorneys who fail to do their duty in respect to prosecuting unlicensed practitioners, quacks, etc., may be made to do so, though this would be a cumbersome, expensive and probably ineffective proceeding The secretary of the West Virginia board calls attention to the fact that in the matter of unlicensed and irregular practitioners the proper method for procedure is for local physicians to collect what evidence may be needed and place this in the hands of the prosecuting attorney of the county, insisting on his performing his sworn duty.

The Friedmann Tortoise Bacilli Boom —The history of medicine presents a strange medley of superstition, fads, South Sea bubbles, personal booms, mingled with a vast redeeming amount of devoted searching after truth, and here and there a solid stride ahead in scientific knowledge After all said and done, the world owes an untold debt to the humble and ill requited toilers after truth, who have done more to better the lot of mankind than all the soldiers who have fought for less noble purposes since man first evolved into an animal capable of using arms and of organizing armies. To turn from this picture to that of a German medical man who, by all accounts, has reaped a huge fortune in America from an alleged cure for consumption is, indeed, to look on a counterfeit presentment—two brothers of widely differing character. Dr. Friedmann's curative tortoise serum was not accepted by the orthodox medical profession in the United States, but that fact apparently did not prevent its adoption by a heavily capitalized commercial syndicate Dr Friedmann has since returned to Berlin and, according to recent reports, has at last consented to permit his serum to be used by all German physicians It seems clear that, even under the most favorable circumstances, a long time must elapse before medical experts will be enabled to arrive at definite conclusions as to the value of the remedy, which nevertheless created a record "boom" in the United States —*Med. Press and Circular*, London.

Paralysis During Antirabic Treatment.—With the apparent increase in rabies in the United States and the facilities afforded by biologic laboratories for applying the antirabic treatment of Pasteur so that this treatment may be demonstrated by any physician, it is important to know that, though such sequelae are comparatively rare, a number of cases of paralysis have occurred following this treatment In *Public Health Reports*, Oct 24, 1913, H E Hasseltine of the United States has collated the cases occurring abroad and in this country The article is found in Reprint 148 There seems to be a difference of opinion among neurologists as to the exact lesion of this paralysis Some describe it as a myelitis, others as a neuritis One case showed an ascending paralysis. Among the various theories which account for the paralysis. that of anaphylaxis, resulting from the injection of foreign animal tissue seems to Hasseltine to be the most plausible Stimson reports that there have been seventy six cases with four deaths Hasseltine, from the records of the Hygienic Laboratory of cases of rabies reported from the various Pasteur institutes, has found three cases of paralysis noted. Hasseltine believes it important that physicians should report all such cases

Experimental Insect Transmission of Anthrax —Mitzmain, veterinary entomologist in the government service in the Philippines, in *Public Health Reports*, Jan 9, 1914, reports three positive cases of experimental insect transmission of anthrax The insects used in these expperiments were *Stomoxys calcitrans* and *Tabanus striatus* Owing to the difficulty of telling when the anthrax infection appears in the peripheral blood of the larger animals, guinea pigs were used in these experiments In the first trials the donors were employed from twenty four hours to three days prior to their death, and although characteristic cultures were obtained from the blood, no transfer of infection through the bite of the flies resulted in many experiments. The results were likewise negative when the blood was taken from animals recently dead. In the successful experiments on artificially infected guinea-pigs the flies were applied from two and one-half hours to a few minutes before the death of the guinea-pigs. Other guinea-pigs were used to receive the infected bites of the two insects named. The flies were interrupted while feeding on the sick animal and transferred to the healthy animal in one instance in ten seconds and in another instance at an interval of ten minutes. The exposed animals died in both cases on the third day, and a typical picture of anthrax infection was presented in the necropsy. Similar results were obtained when horse-flies were employed to transfer the disease. Cultures from the experimental guinea-pigs reproduced the disease in a horse. The anthrax organism was found in the feces of all these flies at varying intervals up to nineteen days, and in later experiments the disease was transmitted by biting at twenty-minute intervals after feeding on the infected animal. A series of experiments *is being conducted with anthrax in cattle and horses, and* an attempt will be made to determine the limits of infection in flies acting as carriers.

Medicolegal

Construction, Validity and Importance of Medical Practice Act—Application to Treatment by Suggestion by a "Vitapathic"

(*Smith vs. State* (*Ala.*), *63 So. R.* 28)

The Court of Appeals of Alabama affirms a judgment of conviction of the defendant Smith of treating human diseases without having obtained a certificate of qualification from the State Board of Medical Examiners. The court says that it was admitted that the defendant held himself out and offered to treat and did treat human diseases for a consideration in money; that he gave the patient, in the particular case relied on by the state for conviction, a little bottle of white pills to take internally, and had her place her feet in a tub of water, while holding with her hands the cords of a dry electric battery, which he had placed in the tub; that he diagnosed the case of the patient as that of "general debility," and professed to be able to cure her entirely with ten or twelve of such electrical treatments at $1 per treatment, promising a refund of the money if no good resulted.

The defendant styled himself a "Vitapathic and Scientific Healer," and as a witness in his own behalf explained his system of treatment substantially as follows: "I treat diseases of human beings, rather I bring about a state of thought in the patient which works the healing of disease. It is really the power of mind over matter . . . If we can get a person to really thinking and believing that he is getting better and is going to get well, he will get well. As to the little white pills I give, they are simply a little predigested food . . . I do not give them as a curative remedy, but simply to assist me in getting the patient to the point of believing, on my suggesting it, that he is getting better and is going to get well . . . The reason the use of these things helps me in getting a person to believe in the fact that he is going to get well is because people all over the country are so accustomed to medicine being used as a cure for disease that by the employment of what appears to be such, in connection with my suggestion of health, I can bring about the desired mental action quicker and sometimes more effectively. These means are entirely harmless and ineffective as a remedy, aiding only as a suggestion. Anybody could give the little pills—all of them could be taken without bad effect—and anybody could apply the little battery, a single little dry telephone battery with two little cords attached to it. . . . I do not always use the same thing for the same disease. I sometimes use salves or simple salt water to get the patient's mind in proper condition. In some cases I do not use anything; that is, when without it I can get the attention of the patient and belief on his part in his recovery. . . . There is no hypnotism whatever about my system of treatment. I know nothing about hypnotism. In order for a person to treat diseases on the system or plan I use, or rather in order for a person to be able to bring about a state or mental condition of belief that will result in the cure of disease, it is not necessary for him to understand anything about chemistry, anatomy, physiology, etiology, pathology, symptomatology, and diagnosis of disease; obstetrics and obstetrical operations, gynecology, major and minor surgery, physical diagnosis, diseases of the eye, ear, nose and throat, hygiene or medical jurisprudence. . . . A person without any education whatever can use my system of treatment just as effectively as I can, just so they understand how to bring into play the conscious real mental power resting in every intelligent person. It is the power of mind over matter, over the body. I do not treat persons for broken limbs or in cases of obstetrics, etc., that require surgical assistance."

The court does not doubt that the mind exercises a potent influence over the body, or that its state in many cases has materially to do with the condition of the body; nor does it doubt the efficacy of mental suggestion as a force or agency in leading nature to assert itself and effect a cure of many of the ills that flesh is heir to, or that suggestion may be often effectually aided by the employment on the patient of ineffective, but supposed effective, physical remedies, resembling in kind, but without his knowledge differing in character, from those that he has been accustomed to associate in his mind with and to see used in the cure of disease. For the purposes here, the philosophy of the defendant's treatment may be conceded, even to the full extent of the power he claimed for it, with no limitations on it save those he admitted, and yet the practice of it, in the court's opinion, falls within the inhibition of the law, its letter and purpose, unless the defendant first stands an examination on those branches of medical science or learning hereinbefore enumerated, and receives a certificate of proficiency *therein*—except major surgery, on which he is not required by the law to stand an examination if he states in writing before the examiners that he does not propose to employ that in his practice. (Political code, section 1626 et seq.; Criminal code, section 7564.)

The section of the criminal code cited is a part of the same act (Act Aug. 7, 1907, p. 591) as that incorporated in the sections of the political code cited. The act mentioned was passed after the decision of *Bragg vs. State*, 134 *Ala.* 165, and therefore with knowledge on the part of the legislature of such decision. Indeed the history of that legislation, as disclosed by the journals of the house and senate and the original bill, in which the act had its inception, will show that that decision gave rise to the legislation, which, while designed in its origin to destroy the effect of that decision, construing the then existing statutes as preventing the practicing of osteopathy without standing the examination then required, culminated in an amended bill, which became the statute here violated, and which, among other changes wrought in the law, broadened the language, as to the class of persons to whom it should be applicable, from those "practicing medicine in any of its branches or departments," the language of the statute construed in *Bragg vs. State*, as extending to osteopaths, to "all persons who treat or offer to treat diseases of human beings by any system of treatment whatsoever," the language of the present statute.

The clause is indeed comprehensive in its scope as to the class of persons on whom the law is to operate; nor is the court prepared to doubt the wisdom of the enactment, or the extensiveness of its intended application. The law leaves the practitioner free to adopt any system or kind of healing or cure that he may see fit, whatever it be, whether it be physical or mental, or both; it requires an examination on no system of therapeutics, and exacts no certificate of proficiency therein. What it *does require is the standing of a* successful examination on those branches of medical learning—chemistry, anatomy, physiology, etiology, pathology, symptomatology, gynecology, diagnosis of disease, physical diagnosis, diseases of the ear, eye, nose and throat—a knowledge of which is deemed necessary to an intelligent understanding of the human body, its composition, organs and their functions, and to an ability to know when it is diseased and when it is not, and, when so, to be able properly to diagnose the trouble, a sine qua non to intelligent treatment of any sort; and a successful examination on hygiene, so that the practitioner will know how to prevent disease and may avoid, at least, the spread and communication to others of the diseases of his patients, or to them of other diseases; and a successful examination on medical jurisprudence, so that, when called to testify as to cases coming under his observation, he may be an intelligent witness, and as such be able to render aid to the courts in the investigation of truth and the administration of the law of the land; and a successful examination on obstetrics and obstetric operations, a knowledge of which, as practically admitted by the defendant himself, is indispensable to the ability to relieve suffering and save life in some of such cases, which are known to be frequent. He says, as hereinbefore quoted: "I do not treat persons for broken limbs, or in cases of obstetrics, etc., that require surgical assistance." Without the requisite learning in obstetrics how would he know a case that needed surgical assistance from one that did not, when sent for to give relief? And if he did not, what would become of his patient while he mistakenly applied his remedy, supposing it was not a case needing surgical assistance, when in fact it was? If the patient dies, is he to be excused because his remedy was a harmless one and did not hurt, when there has been a neglect to use what it is admitted by him would have been an effectual remedy, but which he did not use himself because of a want of knowledge as to how to use it, and did not call in another to use, who did know how, because of a like want of knowledge as to when the conditions were such as to render its use necessary? Without the ability to diagnose disease how would the defendant know a case of pregnancy in certain stages from a case of tumor of the womb? Will each pass away by means of mental suggestion?

These admissions of the defendant, in themselves, prove the wisdom of the law, and the necessity for requiring, as a protection to the people, that the professional healer or curer, who holds himself out to serve the public in that capacity, whatever be his system of treatment, have knowledge of those branches of learning named in the law, to the end that, while leaving him free to choose his own curative means, the public may be assured that the choice shall be made only after an intelligent understanding of the nature of the trouble he offers to treat, and of the human body to which he assumes to minister. The fact that the remedy he adopts is entirely harmless, and might be as effectively used by an uneducated as an educated person, does not, as seen, relieve the danger to the public resulting from entrusting their lives and health to a practitioner of cures who is ignorant of those things a knowledge of which science and experience have demonstrated to be highly useful and beneficial, if not necessary, in any system of treatment.

The law is a police regulation, designed for the protection of the public, and the court is clear in the opinion that the case made against the defendant falls within its terms and spirit, and that the statute is not unconstitutional, at least in so far as this case is concerned. Whether the statute is applicable to one who practices faith or mental cures, not for compensation, but gratuitously out of a sense of religious duty, or whether, if it was intended to so apply, it would be unconstitutional as against such persons because of an infringement of the bill of rights guaranteeing religious freedom, is a question the court need not and does not decide, and on which it expresses no opinion whatever, since that question was not before it.

The Supreme Court of Alabama says, *Ex parte Smith*, 63 *So. R.* 70: We are of the opinion that the agreed statement of facts brought the appellant within the influence of sections 1627 and 7564 of the code of 1907, and the certiorari to review the action of the Court of Appeals is denied.

The defendant also seeks a writ error, as provided by the act of 1911, authorizing a review by this court of the action of the Court of Appeals in upholding the constitutionality of the foregoing sections. We are of the opinion that the Court of Appeals correctly held that the statute was not violative of the federal or state constitutions, in so far as it was applicable to this defendant, who practiced his system of healing for a valuable reward.

Transportation of Sick Persons by Railway Companies

(Central of Georgia Railway Co. vs. Fleming (Ga.), 79 S. E. R. 369)

The Court of Appeals of Georgia reverses a judgment rendered for the plaintiff, who sued the railway company for damages for the alleged negligent homicide of her husband. The petition in substance alleged that he was suffering from appendicitis, and that it was necessary to take him to Atlanta for an operation. The negligence alleged against the defendant, in substance, was the refusal of the conductor to allow the sick man to be taken on the baggage car as a passenger; also that the defendant well knew his condition, and that the failure of the defendant company to provide a safe, convenient and comfortable place for carrying him caused his appendix to burst, and this caused his death. It was alleged that there was no place or room for his cot in the smoking-car, where the conductor directed that he be taken, and that it was necessary to place his cot between two seats thrown together, which caused his body to be placed in a bow-like position, which was uncomfortable and dangerous and which caused the appendix to burst. The court thinks that a general demurrer to the petition should have been sustained and the petition dismissed.

The court holds that, while it is the duty of a carrier of passengers who accepts a sick passenger, to exercise due diligence in taking care of him, and to furnish all practical facilities for his safe and comfortable passage, consistent with the conduct of the carrier's business and the comfort and safety of other passengers, this measure of diligence does not require the carrier to place a sick passenger in its baggage car. It applies only to the transportation of passengers in passenger cars provided for that purpose; and refusal by a conductor of a passenger car to transport a sick passenger in a baggage car raises no liability on the part of the carrier.

The fact that conductors of passenger cars have permitted sick passengers to be placed in the baggage car will not vary the rule, and will not give a passenger the right to be transported in the baggage car. A baggage car is a place of danger, and, either sick or well, a passenger has no right to demand that the company shall transport him as a passenger in the baggage car.

A railroad company is not required by law to carry hospital cars, or cars especially for sick people to ride in. It is not required to convert a baggage car into a car especially for sick people. If it accepts a sick passenger, its duty is to place him in a passenger car in such a position as will insure, so far as possible, his safety and his comfort. Where the carrier does this, the measure of its duty has been fulfilled.

Liability for Performance of Operation on Child at Request of Adult Sister without Consent of Parents—Emergency Operations on Children

(Rishworth and wife vs. Moss and another (Tex.), 159 S. W. R. 122)

The Court of Civil Appeals of Texas reverses a judgment rendered for the defendants in this action brought by the plaintiffs to recover damages because, as they alleged, an operation was performed on their 11-year-old daughter for adenoids, which the plaintiffs had not requested and knew nothing of, until informed that their child had died on the operating-table. The evidence tended to show that the operation was undertaken at the instance and request of an adult sister of the child, and that she was present when chloroform was administered and the operation performed by the defendants The child never recovered consciousness after being anesthetized The court bases its decision on the broad proposition that the mere fact that a child of tender years is taken to a surgeon's office by an elder sister, without the consent of the parents of the child, will not justify an operation on the child It holds that it was clearly error to instruct the jury that if they believed from the evidence that the plaintiff's daughter took the child to Dr Moss for the purpose of being operated on, and believed that the defendants in good faith performed the operation with ordinary care, then verdict must be for the defendants, and this, too, notwithstanding there was no consent from the parents that the operation should be performed

The court says that the right of the child to bind the parent depends, not on any principle peculiar to the relationship of parent and child, but on principles appertaining to the law of agency The relationship can be used only in drawing the inference of agency on slighter facts than as to other parties not so related It follows that if the adult daughter in this instance had any authority to employ a physician to operate on her minor sister, she had that authority, not by reason of her relationship to the child or the parents, but by virtue of an agency, express or implied, from her parents, or at least one of them Her authority must be viewed in the light of the rules and principles of the law of agency, rather than those rules connected with and arising out of domestic relations

All of the cases proceed on the theory that before an operation can be lawfully performed, it must be preceded by the consent of the person capable of consent, or of the person empowered to consent to such operation on the person of one incapable of giving consent

The law, as enunciated by the few courts which have passed thereon, is not so clear and satisfactory as it should be in cases of this character, but it seems to be reasonably established that a physician is liable for operating on a patient unless he obtains the consent of the patient, if competent, and, if not, of some one, who under the circumstances would be legally authorized to give the requisite consent

Of course consent may be presumed from circumstances, without direct proof, but there must be consent in every case, except in an emergency when to delay to obtain consent would endanger the life or health of the patient

A child of tender years being incapable of legally consenting to the administration of an anesthetic and a surgical operation, consent must be obtained from the person clothed with authority to consent by the law, which would be the parent or guardian, in case there be such person

Under the circumstances of this case, the sister, whether adult or otherwise, would have no more authority by virtue of such relationship than would any other person, and it was fundamental error on the part of the court to instruct the jury that the presence of the elder sister, as a matter of law, justified the physicians in performing the operation The parents were easily accessible by telephone or telegraph and there was no emergency

The question of consent of the parents was one of fact to be submitted to the jury, and the issue as to the skill and care that was exercised was one to be submitted in the alternative if consent was given In the absence of consent to the operation the utmost skill and care in its performance would not justify the operation

On a motion for rehearing, which it denies the court says that it thinks it "clear, manifest to the understanding, plain, evident, obvious, appearing to the eye or mind" that it is error to instruct a jury that a minor child, 11 years of age can be operated on by a surgeon, without the consent of the parents, if the child was taken to the surgeon's office by an adult sister. The charge did not place immunity for the physician on the ground of consent of the child itself, nor on the emergency of the occasion, but merely on the proposition that "the daughter of the plaintiffs took the child to Dr. Moss for the purpose of being operated on ' The court holds that such an instruction is absolutely and fundamentally wrong

The court does not wish it understood, however, that it has intimated an indorsement of the proposition that an infant of tender years is given by law any authority or power to judge of the necessity of having a dangerous operation performed on an infant in case of an emergency, without the consent of the parents, cannot be justified on the ground of the consent of such infant but on the ground of the emergency. The physician in an emergency, in which the life of the infant is at stake, is justified in performing an operation without the consent of parent or guardian, not on the ground that the infant can contract for necessaries, but on the ground that the emergency exists, and the question of emergency would be one of fact to be considered by a jury.

If, however, it could be held that an infant could contract for a surgical operation, on the ground that it was necessary. it would always be a question of fact as to whether it was necessary and that the parent or guardian had refused to have it done The law does not give the girl under 15 the power to consent to the use of her person, and it would seem to be a dangerous proposition to authorize children of the age of the dead child to decide whether an operation is necessary, in defiance of the consent of its parents

A married woman's power over her person cannot be classed with that of an infant of tender years over her person, but. even in the case of a married woman. it appears from the case of *State vs Housekeeper*, 70 Md 162, that there must be an emergency, and a failure on the part of the husband to respond to the call of the emergency

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Society Proceedings

CHICAGO NEUROLOGICAL SOCIETY AND THE BIOLOGICAL CLUB OF CHICAGO

Joint Meeting, held Dec 18, 1913

(Concluded from page 231)

An Experimental Study of Nerve Regeneration

Dr S Walter Ranson During the last eight years a number of investigators have used the Cajal stain, or some of its modifications, in the study of nerve tissue These studies have brought to light a number of changes which occur in the last few millimeters of the proximal and distal stumps which had been overlooked by other methods of study These changes occurred within a few days, in fact, within the first twenty four or forty eight hours after the operation Within the first twenty four hours the axon undergoes a swelling which is located perhaps 0 2 mm from the cut surface, and the neural fibers of the axon become rearranged in a dense neurofibrillar reticulum Four days after the operation in the last half millimeter of the proximal stump the following changes are seen The medullated fibers show the myelin sheaths completely disintegrated, and the axons have their neurofibrils rearranged in a dense reticulum beneath the neurilemma These changes are entirely transitory phenomena and disappear within fourteen days Quite similar changes occur in the distal stump The early phenomena in neither the proximal nor the distal stump have anything to do with the final regeneration of the nerve By means of the Cajal method we are able to follow clearly the downgrowth of the new axon from the proximal stump

The changes which lead to the final regeneration of the nerve may be summarized under four headings. (1) the formation of nucleated protoplasmic bands from the dead fibers in the distal portion, (2) the branching of the old axon in the proximal stump with the formation in this way of a large number of new fibers, (3) the downgrowth of these new axons from the proximal stump through the scar, and (4) the growth of the new axons through the protoplasmic bands of the distal stump In cross sections it may often be seen that fifty new axons develop from one old one in the proximal stump The part of the scar which immediately underlies the distal stump is free from nerve-fibers excepting in one limited area. The new fibers in the distal stump are everywhere free from axons, excepting in that part which is overlaid by the innervated part of the scar. In these bands in this region one sees sharply defined axons. When the two ends of the nerve have been sutured at the operation, then large numbers of fibers enter the distal stump, and they can be seen in large numbers growing down to protoplasmic bands of the distal stump, so that one can say in summary that the view which was maintained by Waller more than fifty years ago as to nerve regeneration is correct, namely, that it takes place by a downgrowth of new axons from the proximal stump.

Degeneration and Regeneration of the Nervous Elements in Experimental Beriberi

Dr. Elbert Clark: There are two types of beriberi—ship beriberi and atrophic beriberi, each of which has pronounced charactertistics. In both types the disease runs a variable course, two patients rarely giving the same symptom-complex. In ship beriberi there is edema, especially of the feet and legs. The hands, arms and lower abdominal walls show some edema, but to a less extent. Hyperesthesia of the extremities *is usually present, and complete anesthesia of the feet and* lower portion of the legs is not rare in advanced cases. Tenderness and pain in the calf muscles is a very frequent symptom. Motor and sensory symptoms are present. Paralysis of the toes and fingers is frequently encountered. Cardiac disturbances are present, as a rule, with a rapid, somewhat irregular and weak pulse, easily accelerated by the slightest exertion. There may be a reduplication of the second pulmonic sound. In the atrophic variety there is no edema, but great emaciation. Other disturbances present resemble more or less ship beriberi. A great many cases run a less severe course and last many years. The greatest advance in the study of the disease has been along the line of etiology. A great many observers hold that it is a true infectious disease, but others believe that it results from faulty nutrition, and class it as a disease of faulty metabolism. Beriberi occurs most frequently among people whose principal diet is polished rice. Polished rice bears to red rice the same relation as white to graham flour.

According to the theory of auto-intoxication these neurilemma nuclei are capable of producing a new axis cylinder and new myelin sheath, which is capable of conducting sensation. Opponents to this theory hold that it merely serves as a scaffold. In either case the proliferation of nuclei in the neurilemma sheath is supposed to be absolutely necessary. In brief, we apparently have a regeneration of the axis cylinders without participation of the embryonic nerve-fibers and without any assistance from the nucleated neuron sheath. We have found that degeneration in the fowls in which beriberi was produced experimentally is brought about by prolonged feeding of polished rice, and regeneration is brought about by adding meats, grass, etc., to the diet. No evidence of degeneration was observed in the spinal cord.

DISCUSSION

Dr. Judson Herrick: One of the points brought out by Dr. Clark is the functional unity of a neuron. Correlated with that, however, is the problem as to how far the individual parts of the neuron are capable of autogenous activity, in either functional or regenerative fashion. That has been the great problem for many years, which now seems to be well under way to a solution so far as the fundamentals of it are concerned. The phenomena of regeneration, as we know them biologically in other than nerve tissues, have been also the subject of very extensive experiments, and the regenerative phenomena which belong to that class of activity which is called biologic regulation come out clearly, I think, in all of the features which have been described this evening. From the first the neuron which has been subjected to injury, either from a toxin or a lesion, appears to make an effort to restore itself to its normal form. There is a form regulation, and in the process of this restoration the neuron, as a whole, *participates.*

Of these phenomena of biologic regulation after injury there is in the simpler forms a process, first, of redifferentiation of the tissues adjacent to the injury. We are inclined commonly to think of regeneration of these nerve-fibers as following somewhat that same law. There is more or less of redifferentiation throughout the neurons, which may go beyond redifferentiation and result in ultimate destruction. The nuclei of the neurilemma are more resistant than the rest of the fibers. The question is, Are they capable of completing the process of redifferentiation without assistance, or are they not? It seems to me that the data brought forth this evening add the final proof necessary for the decision of that question. They are not capable of completing the process of redifferentiation to a fundamental form. They rarely are able in normal development to come to their perfect form without the cooperation of functional activity during the later stage of the process.

The most striking thing in connection with Dr. Clark's work has been his demonstration of the fact that the whole process may go on without the production of a local lesion. These considerations not only have a bearing on the repair of nerve-fibers which have been injured by toxins as *distinguished from those produced by mechanical injuries, but* also are related to the neuron, as a whole, and from both of these points of view it seems to me that the observations reported are of considerable importance.

Dr. S. Walter Ranson: I want to call attention to one point mentioned by Dr. Clark which is of especial interest, and that is the development of new axons without any proliferation of the neural cells. A good case of confirmatory evidence along the same line is that of an observer who has transplanted the spinal ganglion into a nutritive solution; the ganglion lived in the test-tube, and new fibers have grown out from the old fibers in this medium. These new axons which have grown out into the medium in the test-tube have, of course, been entirely free from contact with any proliferated neurilemma cells. The two pieces of evidence are along the same line.

WESTERN SURGICAL ASSOCIATION

Twenty-Third Annual Meeting, held at St. Louis, Dec. 19-20, 1913

(Continued from page 232)

Pericolic Membranes Resulting from Experimentally Produced Coprostasis

Dr. Joseph Rilus Eastman, Indianapolis: I have experimentally produced pericolic membranes in rabbits by inducing a low-grade plastic peritonitis. The mild adhesive peritonitis occurs as the result of the plugging of the large intestine with its own contents. From my observations it appears that extensive membraniform adhesions may result from extreme coprostasis, and this is exactly as we should expect, for we know that incarceration of hernia and other forms of obstruction of the intestinal lumen, without visible lesion of the intestinal wall and without strangulation, lead to mild peritonitis, fusions and membraniform adhesions. Such pericolic membranes are not different in histology and origin from similar membranes about the uterus and uterine adnexa, all representing reactions of the peritoneum to irritation.

Significance of the Pericolic Membrane (Jackson's Veil)

Dr. Daniel N. Eisendrath and Dr. E. W. Schnoor, Chicago: From our observations during operations, from dissection of cadavers and finally from examination of ten fetuses, we believe that certain conclusions can be drawn. The parietocolic fold of Jonnesco is synonymous with the pericolic membrane. It is a reduplication or fold of peritoneum which is constantly found during fetal or postnatal life. There are two distinct types of pericolic membrane, (1) those which are innocent, and (2) those which may cause mechanical interference with the function of the colon. Each case must be judged on the operative findings, and one is not justified in saying that every pericolic membrane requires interference. The majority are perfect, normal structures. Our examinations of fetal cadavers confirm those of Gray and Anderson, that there is a left parietocolic fold which corresponds in every detail to the same structure on the right side It is a constant finding in the fetus, and no doubt search for it in the future during operations on the left side of the abdomen will confirm these fetal observations

Dr Arthur N Collins, Duluth, Minn I have found a vascular film or veil of greater or less extent in at least 75 or 80 per cent of cases In my experience, covering twenty five or thirty cases, the most frequent location of the veil was on the ascending colon, and next on the cecum the hepatic flexure coming third I believe that the membranous veil is intimately concerned in cases of acute or chronic constipation or stasis in the large bowel By treating the membrane surgically, I have relieved the constipation more often than the pain and tenderness

DISCUSSION

Dr L A Greensfelder, Chicago In sixteen instances I found a Jackson's membrane which was not pathologic I believe that the reason the membrane is sometimes not observed in children is that it is a very fine, frail, web like structure which is apt to be overlooked unless one looks for it accurately and carefully

Dr Leonard Freeman, Denver I found the membrane in twenty four cases I am inclined to agree with Dr Eisendrath that it is more or less of a normal structure, at least in the particular cases in which I have had an opportunity to notice it In but two instances that I saw was I at all convinced that it produced any pathologic disturbance to the bowels In one of these cases the obstruction was very marked

Dr Miles F Porter, Fort Wayne, Ind The mere presence of what seems to be a rather unusual fold in the peritoneal cavity does not necessarily call for an operation of one sort or another on that fold It does not seem to me that from a practical point of view it is important to determine whether these folds are of embryonic or of pathologic origin It is important to determine whether or not they are doing any harm I have seen a number of these cases in which the bands have been released and the obstruction has been relieved, but the patients have been made no better

Dr Van Buren Knott, Sioux City, Iowa More harm than good results from injudicious attempts at handling bands supposed to be responsible for symptoms We should have greater familiarity with this subject in order to know in just what cases we should attempt to liberate or remove the membrane

Dr Thomas C Witherspoon, Butte, Mont One error we frequently make is to attribute too much to the bands Undoubtedly children have these bands, but they do not suffer They are active, they are going about, there is no stasis, and the intensification of the mechanical obstruction by the bands that they experience later as they go into their studies or offices, where their habits are sedentary, is due to the occurrence of cesspooling in the bowel, and then stasis begins

Dr Byron B Davis, Omaha I think that the Jackson membrane is a normal one and is present in a large percentage of cases, that in most cases when it is normally formed it is really a conservative anatomic structure rather than a pathologic one, and that in many instances it serves to fix the ascending colon and to prevent a prolapse which would occur in the absence of this membrane The causes of any pathologic condition in this location are very numerous There may be chronic constipation, or an acute colitis, appendicitis with more or less involvement of the peritoneum, or anything causing a peritoneal irritation or inflammation may cause enough increased vascularization and thickening of this membrane, so that it later would contract in such a manner as to bind down the colon to it, as I have found in a few cases

Dr A A Law, Minneapolis We have found this membrane in fifty cases All of them have been studied fluoroscopically with colonic injection of bismuth and also by means of the stereoscope The findings are practically of no value, except as they show whether or not obstruction is present in the large bowel The large bowel takes so many positions, according to the posture of the patient, that it is of little value Every case of ours had cecal ptosis The cecum was in the pelvis, or went down there when the membrane was released

Dr William T Reynolds, Kansas City, Mo: I have had eleven of these cases, the youngest patient being 6 months old In no instance was there an absence of this membrane on the right side of the colon high up, and in no instance was it absent on the terminal ileum In three cases it was present on the opposite side

Dr A A Kerr Salt Lake City The cases which I have seen have been associated with intestinal stasis or chronic appendicitis

Dr Jabez N Jackson, Kansas City, Mo If one finds a loose, vascularized veil floating over the colon, that has no bands of fibrous tissue in it definitely interfering with the capacity of the intestine somewhere, he should dismiss it from his mind When this membrane interferes mechanically with the capacity of the intestine, it should be divided or stripped off and this should depend on the individual case In some instances a mere slit of an incision is all that is necessary Sometimes the attachments are so multiple that no simple line of incision will do it, and we have practically to strip the restricting membrane off

Dr M L Harris Chicago After these membranes are dealt with the case becomes a medical one and unless properly treated these membranes will recur, if due to a pathologic state in the intestinal wall or to low forms of infection We can produce these conditions in animals experimentally. In my opinion this low infection from intestinal stasis is the underlying factor in this condition

Cholecystitis: Factors that Control Results of Operation

Dr Charles H Mayo, Rochester, Minn The results of operation for cholecystitis are influenced by many conditions besides those in the gall bladder itself Among these are a number of infections within the liver and bile ducts causing changes in the balance of the acidity of the stomach and of the alkalinity of the duodenum, the presence of pyloric spasm and changes in the pancreas Special attention is called to a group of lymph nodes extending along the common and hepatic ducts and on the cystic duct Any case of cholecystitis with sufficient infection to produce symptoms will necessarily affect these lymph nodes In the majority of cases, if these lymph nodes are much enlarged, one will find a lymphedema of the head of the pancreas as well as the infection of the gall bladder An exception is the general swelling of the mesenteric nodes through malignancy or gross abdominal infection The majority of cases of cholecystitis are undoubtedly best relieved by cholecystectomy

Repair of the Common Duct by Means of Transplanted Fascia

Dr Carl B Davis and Dr Dean D Lewis, Chicago We have transplanted free fascia from the abdominal wall to bridge gaps in the common duct and to patch partially severed ducts In all cases the gastrohepatic omentum was destroyed so far as any support was given to the choledochus In one series of cases the common duct was cut across and the ends allowed to retract until they were from ½ to 1 inch apart A strip of fascia was removed from over the rectus muscle, passed beneath the ends of the severed duct and fastened by silk sutures to the proximal portion of the common duct and passed well up on the cystic and hepatic ducts The repair at the distal end was done by fixing the fascia to the duodenum behind the entrance of the distal end of the duct into the intestine The fascia was then folded over to form a tube and two continuous sutures used to make it as water tight as possible, over this the omentum was wrapped as an extra precaution

In the second series of cases the common duct was cut partially across and then slit lengthwise for half an inch A strip of abdominal fascia was placed around the duct and the abdomen closed without drainage In eleven cases it was necessary to close the abdomen without drainage, as the

animals pulled out tubes and gauze in the first twenty four hours In some cases we tried to divert the bile from the field of repair by draining the gall bladder, but lost the animals by extravasation of bile into the abdominal cavity after the tubes had been removed by the dogs Whenever a leak occurred in the region of the flap, the experiment failed This occurred in three cases—two in the first series and one in which the duct was merely slit up Five dogs were lost from infection of the abduct wall

Three dogs lived two months in the first series Two of them when killed showed a patent common duct and stools of normal color The third dog, which lived sixty five days, had a constriction at the duodenal end The bile ducts were distended to an enormous degree The fascia was alive and as resistant as the normal tissues In one animal in which the bile duct had been slit longitudinally, the fascia was sutured too tight at the duodenal end, resulting in marked distention of the gall tracts In this case the fascia was alive and strong enough to retain the bile

(To be continued)

SOUTHERN SURGICAL ASSOCIATION

Twenty Sixth Annual Meeting, held at Atlanta, Ga Dec 16 18 1913

(Continued from page 233)

Elements Frequently Overlooked in the Treatment of Exophthalmic Goiter

Dr A. J. Ochsner, Chicago The following features have a distinct bearing on the surgical treatment of exophthalmic goiter the physiologic hyperthyroidism present during pregnancy, puberty, etc , that resulting when persons suffering from goiter living in goiter districts change their residence to other regions, disturbance of the balance between production and consumption of thyroid secretion by some severe sudden physical mental or emotional strain, in a class of patients in whom this balance is usually maintained Planning the operation in relation to the margin of safety in the individual case, bearing in mind the periodicity of exacerbation in hyperthyroidism and its relation to the proper time of operation, the harmfulness of undue operative traumatism, the relation between absorption of wound secretion and postoperative hyperthyroidism, and the uselessness and harmfulness of heart stimulants, thyroid extract and iodin

DISCUSSION

Dr Charles H Mayo, Rochester, Minn It is difficult to control patients after operations for goiter, and sometimes I think it is about as easy to operate again as to try to manage them after operation, because so many of them disregard the rules which we lay down for their after care I have seen many cases that could not be improved by operation

Accidental Injury to the Vena Cava during Nephrectomy

Dr LeGrand Guerry, Columbia, S C , reported three cases in which he had injured the vena cava during nephrectomy, in two the accident being unavoidable In one case the hemorrhage from the torn vena cava was successfully controlled by gauze tamponade In all cases the clamp alone was used to close the injured vessel wall The clamp was unlocked on the seventh day and removed on the eighth day

DISCUSSION

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Adenomyoma of the Rectovaginal Septum

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These growths can easily be differentiated clinically from cancer of the rectum Adenomyomas of the rectovaginal septum invade the bowel from without. They may extend into and narrow the bowel lumen, but the overlying rectal mucosa is still intact The only rectal symptoms that one may expect are those due to partial constriction of the bowel Cancer of the bowel, on the other hand, starts in the mucosa and extends outward It is usually accompanied by hemorrhage from the bowel and later by the fetid discharge due to breaking down of the cancerous tissue With adenomyoma of the rectovaginal septum there is usually no bleeding On proctoscopic examination in the one case the cancerous area can readily be seen, in the other while the bowel is narrowed the mucosa is nevertheless everywhere intact

While these growths are histologically benign and while they naturally never give rise to metastasis, nevertheless, if portions of the growth be left they continue to grow as a result of the adhesions, and alarming and in fact fatal obstructive symptoms may develop

Use of the Paquelin Cautery in Cervicitis, with Special Reference to Its Value in Sterility

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In sterility cases, fourteen patients became pregnant after the use of the cautery Some of these patients had not been married long enough to be classed as sterile, others had borne children and were probably only temporarily sterile, and others had reposition of the pelvic organs with placement of a pessary treatment that might have resulted in pregnancy without the use of the cautery It is more than probable that in six the pregnancy followed as a consequence of using the cautery Eight cases were failures

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Dr I S Stone, Washington, D C If we are going to take three or five months to cure a patient of chronic cervical endometritis, some other method of treatment should be adopted If we wish to destroy the glands, why not split the cervix wide open and cut away the glands? Let us destroy the cervical tissue at once, leave a strip of undenuded tissue which has been curetted, bring back the cervix and sew it up If that is done, the cervix will be as elastic as any cervix after a trachelorrhaphy It will be free from cicatricial tissue which would interfere with pregnancy or delivery

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animals pulled out tubes and gauze in the first twenty four hours In some cases we tried to divert the bile from the field of repair by draining the gall bladder, but lost the animals by extravasation of bile into the abdominal cavity after the tubes had been removed by the dogs Whenever a leak occurred in the region of the flap, the experiment failed This occurred in three cases—two in the first series and one in which the duct was merely slit up Five dogs were lost from infection of the abduct wall

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Dr Charles H Mayo, Rochester, Minn It is difficult to control patients after operations for goiter, and sometimes I think it is about as easy to operate again as to try to manage them after operation, because so many of them disregard the rules which we lay down for their after care I have seen many cases that could not be improved by operation

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Dr. H. J. Boldt, New York: I have had two cases of formation of an artificial vagina by intestinal transplantation. It is the only method that has given satisfactory results. Other methods I have used were eventually always failures. In both of these cases there was a complete congenital absence of the vagina, and in each case the ileum was used.

DISCUSSION

Dr. Thomas S. Cullen, Baltimore: I have had several cases in which the pelvic organs were present but the vagina had not been opened, and it was necessary to go up and find the vaginal mucosa and attach it to the skin. These cases have been in girls between 15 and 18 years of age. In one case in which the patient had no vagina at all, I attempted to make an opening between the rectum and bladder. With one finger in the rectum and with artery forceps in the bladder I worked through the septum from above. I felt a mass on the right side and came to the conclusion that it was the uterus. There was an accumulation there. Three or four inches in I felt that this was hard. I immediately opened the abdomen and found that the mass in the right side was a unilateral kidney. The tube and ovary were present on the right side. The tube was visible. The fimbriated end was sticking out through the hernial ring; the ovary was covered over by peritoneum and the round ligament came down and formed a loop and went back. On the opposite side there was nothing to be seen, but outside the pelvis I could feel the ovary and tube.

Adenomyoma of the Rectovaginal Septum

Dr. Thomas S. Cullen, Baltimore: These growths have the same histologic picture as adenomyoma of the uterus. They consist of typical uterine glands lying in their characteristic stroma and surrounded by diffuse myomatous tissue. They evidently start in the lower part of the uterus and then spread out in the rectovaginal septum. These growths, which in the beginning may be readily shelled out, later become so fixed to the rectum that it is necessary to take away a portion of the bowel with the tumor.

These growths can easily be differentiated clinically from cancer of the rectum. Adenomyomas of the rectovaginal septum invade the bowel from without. They may extend into and narrow the bowel lumen, but the overlying rectal mucosa is still intact. The only rectal symptoms that one may expect are those due to partial constriction of the bowel. Cancer of the bowel, on the other hand, starts in the mucosa and extends outward. It is usually accompanied by hemorrhage from the bowel and later by the fetid discharge due to breaking down of the cancerous tissue. With adenomyoma of the rectovaginal septum there is usually no bleeding. On rectoscopic examination in the one case the cancerous area can readily be seen, in the other while the bowel is narrowed the mucosa is nevertheless everywhere intact.

While these growths are histologically benign and while they naturally never give rise to metastasis, nevertheless, if portions of the growth be left they continue to grow as a result of the adhesions, and alarming and in fact fatal obstructive symptoms may develop.

Use of the Paquelin Cautery in Cervicitis, with Special Reference to Its Value in Sterility

Dr. Guy L. Hunner, Baltimore: I now have a series of 241 cases treated with the cautery with practically universal success. I wish to warn against the use of the cautery in the acute or subacute stages of gonorrhea, and also against losing valuable time by using the cautery in an early case of epithelioma of the cervix. Any suspicious case that cannot be diagnosed grossly should have a specimen removed for microscopic examination. In the chronic inflammatory cases in which a portion of the leukorrhea comes from a metritis or endometritis, the cervical treatment should cease when the cervix has a normal appearance and the cautery fails to empty more retention glands, although there will still persist some leukorrhea from within the uterus. Other pathologic conditions for which the cautery has been found useful are urethral caruncle, polypus of the cervix, fibroma of the vaginal wall, retention cysts and abscesses of Skene's and Bartholin's glands.

In sterility cases, fourteen patients became pregnant after the use of the cautery. Some of these patients had not been married long enough to be classed as sterile; others had borne children and were probably only temporarily sterile, and others had reposition of the pelvic organs with placement of a pessary treatment that might have resulted in pregnancy without the use of the cautery. It is more than probable that in six the pregnancy followed as a consequence of using the cautery. Eight cases were failures.

DISCUSSION

Dr. Henry T. Byford, Chicago: With reference to the use of the Paquelin cautery in cases of sterility, it seems to me it is irrational in that we substitute a pathologic cervix for a normal one in which carcinoma is likely to occur. If we dilate the cervix and keep it widely dilated we give the patient a chance to become pregnant.

Dr. Herman J. Boldt, New York: What is the risk of getting subsequent atresia of the cervical canal from the use of the Paquelin cautery?

Dr. George H. Noble, Atlanta, Ga.: Instead of using the cautery in these cases I make six incisions, on either side, two anteriorly and two posteriorly. This gives me ¼ inch between the incisions cutting clear through the mucous membrane and up to the internal os, pushing it well up into the internal os. The effect of the cautery, I am satisfied, is deeper than the cut of the knife. The result is, that with healthy mucous membrane, stenosis does not result. In cauterizing, the mucous membrane is destroyed, but there is a healthy strip left between each incision. The effect of the heat traverses the area underneath and either sterilizes the glands or destroys them.

Dr. I. S. Stone, Washington, D. C.: If we are going to take three or five months to cure a patient of chronic cervical endometritis, some other method of treatment should be adopted. If we wish to destroy the glands, why not split the cervix wide open and cut away the glands? Let us destroy the cervical tissue at once, leave a strip of undenuded tissue which has been curetted, bring back the cervix and sew it up. If that is done, the cervix will be as elastic as any cervix after a trachelorrhaphy. It will be free from cicatricial tissue which would interfere with pregnancy or delivery.

Dr. Henry O. Marcy, Boston: The Paquelin cautery has its place in the treatment of these conditions, and I have used it with excellent results.

Dr. Guy L. Hunner, Baltimore: The possibility of stenosis after the use of the cautery is more imaginary than real. At first I thought that it would occur, but experience shows that it does not.

Treatment of Vesical Fistulas at the Vaginal Vault Following Surgical Operations

Dr. Howard A. Kelly, Baltimore: I have discovered an excellent plan of operating in cases which obviates all difficulties and dangers, simplifies the treatment and, I believe, gives a maximum certainty of cure. The patient lies in the lithotomy posture, with the posterior vaginal wall well retracted. If necessary a paravaginal incision is made to expose the vault and the fistula. When the operator cuts transversely just above or through the scar tissue and carefully opens the peritoneal cavity continuing the incision from side to side until it is as big as in a vaginal hysterectomy. This must be done without injuring the bladder or affecting the fistulous tract in any way. A good plan now is to incise the tissues longitudinally through the fistula down to the bladder, which is dissected away from the vagina and sewed up separately, while the vagina is united over the vesical wound, if the operator prefers it at a right angle to it so that the two lines of suturing cross each other. I usually provide for drainage. I have in some cases left a considerable part of the vesical peritoneum in the vagina, forming a new vaginal vault. A mushroom catheter is put into the bladder for a few days to keep it at rest during the first part of the healing process, and the patient remains in bed from eight to twelve days, the peritoneal drain being removed in from four to six days.

Resection of the Rectum for Cancer with Preservation of the Sphincter

Dr. Charles H. Mayo, Rochester, Minn.: Extirpation of the cecum and ascending colon for cancer has given a high percentage of cures because an anastomosis of the ileum into the colon was an ideal enterostomy for delivering semiliquids. The two-stage Mikulicz method is one of the safest known, although convalescence is protracted. A permanent colostomy, though abhorrent to all patients, undoubtedly gives a higher percentage of cures than do methods which restore function. I advise thorough abdominal exploration, a temporary or permanent colostomy in the majority of cases, increasing the lumen of the anterior and, if necessary, the posterior portion of the bowel to double their normal diameter at the point of union, rotation of the anterior peritoneum-covered bowel to secure rapid healing posteriorly, and practically free peritoneal surface anteriorly, stretching or division of the sphincter to secure drainage of the bowel, closure of the colostomy to secure function, and if there be no metastasis and the colostomy is to be permanent, that the rectum be removed at a second operation.

Surgery of the Ileocecal Coil

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Cyst of the Appendix

Dr. Rudolph Matas, New Orleans: I have a specimen of a rare, retroperitoneal, multilocular, retrocecal cyst of the appendix of large size, weighing 1,582 gm., (over 52.7 oz.) which contained a gelatinous, coagulable, myxoid fluid of variable color and consistency. It measured 47.5 cm. in circumference around its longest diameter, 17.5 cm. in breadth, and 10 cm. in thickness (18¾, 7 and 4 inches, respectively), with a perimeter of 56 cm. (22 inches). It is not a retention cyst or hydrops, as the appendix is quite distinct and separate, though attached to the mass. Its origin is doubtful and obscure. It is evidently a connective tissue sac with multiple compartments lined with endothelium, probably an outgrowth of some embryologic relic connected with the mesentery, possibly a development of an original lymphangioma cavernosum of the mesentery. The mass was removed from a young man, aged 25 years, who has recovered uneventfully after the intervention.

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1. **Leukocytes in Meningitis.**—All of Hess' cases of epidemic meningitis were associated with a marked leukocytosis. The neutrophils were always the predominating cell before the administration of serum. There was a moderate but absolute lymphocytosis in all cases, most marked during convalescence, except in the one infected with measles. It was most marked in the fatal case. There was always an approximation and in some a crossing of the neutrophil and lympho*cyte curves during convalescence. Eosinophils disappear abso*lutely very early in the infection and do not recur until convalescence has set in. With recrudescence and the reappearance of organisms in the spinal fluid, they again disappear. Although there may be a distinct increase occasionally, at no time in Hess' series of cases was there a marked eosinophilia. Their presence and reappearance in his cases was always associated with signs of good omen. Leukocytosis in pneumonia as in other infections is dependent on two great factors: first, the reaction on the part of the organism, and second, the severity of the infection. This is peculiarly true of children whose course in the typical types is associated with a lower mortality than in adults while in the atypical secondary types, we see the highest mortality of any age except that of senility. Generally speaking, a high count indicates a severe infection in an individual of strong powers, a moderate increase indicates either a slight infection with good resistance, or a severe type with an inadequate reaction. A low count suggests either a slight infection or an overpowering influence. It is impossible to make a reliable prognosis in pneumonia from the leukocyte count alone, however, when studied in relation to the clinical picture, the leukocyte count becomes of great prognostic significance. Primary pneumonias of infancy are usually of the lobar type. Bronchopneumonias are usually either secondary pneumonias or are seen in infants with low vitality. This assertion is based on the physical findings, clinical course and blood findings. Young infants react to infections with a high neutrophil count, the same as seen in older children. The usual blood picture in pneumococcus infections is that of a high neutrophil count with a moderate lymphocytosis before the crisis. A deviation from this picture should lead one to suspect lues, tuberculosis, typhoid or influenzal or other infections or the presence of a rachitis or other complication. Excessively high counts are apparently more prone to the development of empyema and other complications, although it is impossible to say whether or not the hyperleukocytosis is not the result of an already infected pleura, etc., not demonstrable clinically. In several instances the toxic symptoms associated with these high counts have led us to do spinal puncture with negative findings. The neutrophil and lymphocyte curves approximate and occasionally cross each other during convalescence. There is a rapid fall in the neutrophils after the crisis. Pseudocrisis is associated with little or no reduction in the total count. A slow fall in the leukocytes with continued high fever indicates either delayed resolution or complications. This is commonly seen in the secondary pneumonias. Sudden increases in the total and neutrophil counts during convalescence should lead to the suspicion of complications, as should a tendency to remain high. In secondary pneumonias the count varies with the associated complications. Frequently there is a high lymphocyte count.

Eosinophilia.—Eosinophils practically disappear during the height of the disease and usually reappear just before or following the crisis or with the beginning of lysis Their recurrence can usually be considered a good sign Disappearance of eosinophils does not depend on the presence or absence of a leukocytosis When they have disappeared, however the absolute decrease tends to remain until the white count nears the normal. They rarely reach an absolute count much above the normal Their occurrence usually indicates that the infection has passed its acme, and is therefore of practical value for prognosis Their disappearance may be retarded by outside factors as the presence of ascaris lumbricoides in the intestinal tract and repeated pneumococcus infections Their disappearance following their return with beginning convalescence should lead to the suspicion of beginning complications

2 **Disseminated Miliary Tuberculosis of Lungs and Skin**—Northrup submits two helps to the diagnosis in the very young of miliary tuberculosis—one, of the lungs—the Roentgen ray, the other of the skin—the eruption In six cases of infants and young children suspected of disseminated miliary tuberculosis of the lungs, the Roentgen ray has cooperated with other tests to decide the diagnosis Two of the cases have been confirmed by necropsy, one has been corroborated by inoculation into the guinea pig one was confirmed by examination of an excised gland, others by finding bacilli in the throat swabs etc The character of the eruption is papulo vesicular, perhaps more vesicular from the first On the neck, in one case, the vesicles were more like sudamina, a little larger though not as large as the vesicle of chicken pox They were thickly clustered in the neck Later there developed a hemorrhagic zone about the vesicle and a subsequent drying and crusting in the middle of the lesion The completed individual lesion was about 2 mm in diameter The rash was on all skin surfaces, including soles, palms and scalp, with more about the mouth, anus and buttocks

All the patients came into the hospital with the evidence in favor of acute pneumonia, the chart bearing out the general suggestion and appearance of the disease The roentgenogram was really the first means of positive diagnosis, being subsequently confirmed by finding tubercle bacilli The cases presented to the experienced observer the mental picture of pneumonia, but the physical signs of bronchitis

3 **Tardy Syphilis.**—The authors believe without question that in many cases of latent syphilis salvarsan produces a beneficial tonic effect. Whether this gain in weight and general condition in infancy is due to this effect or not, they do not know No doubt the effect is mainly due to the action of the drug on the luetic virus As to parallel results with mercurial inunctions, they have not obtained as rapid a gain, nor has the Wassermann reaction become negative as quickly as in our salvarsan cases They have studied 150 cases and injected over seventy children with salvarsan

4. **Treatment of Rheumatic Endocarditis**—The most important part of the treatment of patients coming in with their first attack, Lucas and Wentworth believe to be prolonged rest Rest offers the best hope of complete cure if carried out over a long enough period The hope for permanently curing endocarditis after the first involvement, lessens almost in geometrical progression with each succeeding attack This rest can be obtained in two different ways, either in a hospital or, if the home permits, it can with careful supervision be carried out there There are very few hospitals to day, the authors claim, that are alive to the importance of long continued rest for these early cases of rheumatic fever, or that are willing to keep such cases in their hospital beds long enough really to ensure a permanent cure of the endocardium If not properly treated during the first attack the infection is likely never to be entirely cured The patient is too often discharged with the infection in a quiescent stage, simply to flare up again under the slightest provocation during a recurrent attack Hospital treatment to be successful in these cases must be continued over months rather than weeks the patients being kept in bed and at rest for at least six weeks after all signs of infection, such as temperature, have passed, and then there should be a very gradual increase of activities, the child being under constant supervision throughout the convalescent period The home treatment of such cases will depend almost entirely on the cooperation of the family and the supervision which the hospital offers for follow up work —a combination which is most difficult But if this can be carried out satisfactorily, it offers several advantages In all of these cases medical treatment plays a minor part as compared with rest As in tuberculosis fresh air plays the most important part in a successful treatment, so in these cardiac conditions rest is the key note for successful treatment We must have fresh air and good food combined with rest, as well as a calm cheerful mind

The medicinal treatment is symptomatic In the primary attacks cardiac stimulants are practically never needed. Salicylates usually in the form of acetyl salicylic acid (aspirin) with sodium bicarbonate, are of considerable value during the acute febrile stage and the use of salicylates from time to time may have a preventive function especially when the patients are exposed to any infection or have been exposed to sudden changes of weather The removal of any infection should be carefully looked into The diet, with special attention to constipation, should be carefully supervised. In cases which present themselves with well developed cardiac lesions, but with as yet no failure of compensation, the same observation obtains and the daily life is so regulated that the least strain possible is put on the heart The diet is regulated thorough mastication is urged, the bowels kept moving regularly The patient is advised to report on the first signs of fatigue pain loss of appetite or dyspnea When a patient comes with broken compensation the *sine qua non* is rest

The plan which Lucas and Wentworth suggest for a study of cardiac cases among children includes a general survey of the actual number of cardiac patients attending the hospitals; an estimate of the number of children with the first attack who should be in some institution, as a cardiac sanatorium for a shorter or a longer time an estimation of how many of these cardiac cases could be cared for at home, if they were properly supervised and followed up, an estimate of the number of practically incurable cases and cardiac cripples should be made and some means of reaching these children educationally vocationally and recreatively should be attempted

5 **Neurotic Vomiting.**—The essential features of the case cited by McClure were The sudden onset of vomiting at the age of 3½ months with retention of breast milk while artificial food was vomited The persistence of the vomiting despite the great variety of liquid foods given, with cure resulting promptly on giving semi solid food The slow, forceless and apparently willful nature of the vomiting without swallowing The neurotic disposition of the child, as evidenced by the development of a head rolling habit The usual causes of persistent vomiting having been satisfactorily excluded, McClure was led to explain the vomiting as a neurotic manifestation

American Journal of Roentgenology, Detroit, Mich.

December, I, No 2, pp 59 118

6 Technic for Measuring Quality and Quantity of Roentgen Ray Value of Platino Cyanid of Barium Pastilles G M MacKee and J Remer New York
7 *Technic in Roentgenotherapy with Special Reference to Deep Therapy as Practiced at Freiburg by Kronig and Gauss A F Holding Albany N Y
8 *Roentgenotherapy of Gynecologic Conditions G E Pfahler, Philadelphia
9 *Present Status of Roentgenotherapy of Enlarged Thymus S Lange Cincinnati Ohio
10 Device for Using Constant Stream of Water in Water Cooled Tube G E Pfahler Philadelphia
11 *Fracture of Skull with Air in Ventricles W. H Stewart, New York

7 **Technic in Roentgenotherapy**—The fractional, unmeasured roentgenotherapy technic is unsparingly condemned by Holding He states that the only way to safeguard patients is to insist that the technic must be followed out carefully and that no area of skin shall be given more than an erythema dose unfiltered, and not more than 1½ times the erythema dose with the rays filtered through at least 3 mm of aluminum He believes it would also be wise to dehematise the skin by compression during the treatment .

8 and 9 Abstracted in The Journal, November 15, p 1842.

11 Abstracted in The Journal, November 8, p 1743

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3. **Tardy Syphilis.**—The authors believe without question that in many cases of latent syphilis salvarsan produces a beneficial tonic effect. Whether this gain in weight and general condition in infancy is due to this effect or not, they do not know. No doubt the effect is mainly due to the action of the drug on the luetic virus. As to parallel results with mercurial inunctions, they have not obtained as rapid a gain nor has the Wassermann reaction become negative as quickly as in our salvarsan cases. They have studied 150 cases and injected over seventy children with salvarsan.

4. **Treatment of Rheumatic Endocarditis.**—The most important part of the treatment of patients coming in with their first attack, Lucas and Wentworth believe to be prolonged rest. Rest offers the best hope of complete cure if carried out over a long enough period. The hope for permanently curing endocarditis after the first involvement, lessens almost in geometrical progression with each succeeding attack. This rest can be obtained in two different ways, either in a hospital, or, if the home permits, it can with careful supervision be carried out there. There are very few hospitals to-day, the authors claim, that are alive to the importance of long continued rest for these early cases of rheumatic fever, or that are willing to keep such cases in their hospital beds long enough really to ensure a permanent cure of the endocardium. If not properly treated during the first attack the infection is likely never to be entirely cured. The patient is too often discharged with the infection in a quiescent stage, simply to flare up again under the slightest provocation during a recurrent attack. Hospital treatment to be successful in these cases must be continued over months rather than weeks, the patients being kept in bed and at rest for at least six weeks after all signs of infection, such as temperature, have passed, and then there should be a very gradual increase of activities, the child being under constant supervision throughout the convalescent period. The home treatment of such cases will depend almost entirely on the cooperation of the family and the supervision which the hospital offers for follow up work—a combination which is most difficult. But if this can be carried out satisfactorily, it offers several advantages. In all of these cases medical treatment plays a minor part as compared with rest. As in tuberculosis fresh air plays the most important part in a successful treatment, so in these cardiac conditions rest is the key note for successful treatment. We must have fresh air and good food combined with rest, as well as a calm, cheerful mind.

The medicinal treatment is symptomatic. In the primary attacks cardiac stimulants are practically never needed. Salicylates, usually in the form of acetyl salicylic acid (aspirin) with sodium bicarbonate, are of considerable value during the acute febrile stage, and the use of salicylates from time to time may have a preventive function, especially when the patients are exposed to any infection or have been exposed to sudden changes of weather. The removal of any infection should be carefully looked into. The diet, with special attention to constipation, should be carefully supervised. In cases which present themselves with well developed cardiac lesions, but with as yet no failure of compensation, the same observation obtains and the daily life is so regulated that the least strain possible is put on the heart. The diet is regulated; thorough mastication is urged, the bowels kept moving regularly. The patient is advised to report on the first signs of fatigue, pain, loss of appetite or dyspnea. When a patient comes with broken compensation the *sine qua non* is rest.

The plan which Lucas and Wentworth suggest for a study of cardiac cases among children includes a general survey of the actual number of cardiac patients attending the hospitals; an estimate of the number of children with the first attack who should be in some institution, as a cardiac sanatorium, for a shorter or a longer time, an estimation of how many of these cardiac cases could be cared for at home, if they were properly supervised and followed up, an estimate of the number of practically incurable cases and cardiac cripples should be made, and some means of reaching these children educationally, vocationally and recreatively should be attempted.

5. **Neurotic Vomiting.**—The essential features of the case cited by McClure were: The sudden onset of vomiting at the age of 3½ months, with retention of breast milk while artificial food was vomited. The persistence of the vomiting despite the great variety of liquid foods given, with cure resulting promptly on giving semi-solid food. The slow, forceless and apparently willful nature of the vomiting without swallowing. The neurotic disposition of the child, as evidenced by the development of a head rolling habit. The usual causes of persistent vomiting having been satisfactorily excluded, McClure was led to explain the vomiting as a neurotic manifestation.

American Journal of Roentgenology, Detroit, Mich.

December, I, No. 2, pp. 49-113

6 Technic for Measuring Quality and Quantity of Roentgen Ray. Value of Platino-Cyanid of Barium Pastilles. G. M. MacKee and J. Remer, New York.
7 *Technic in Roentgenotherapy with Special Reference to Deep Therapy as Practiced at Freiburg by Kronig and Gauss. A. F. Holding, Albany, N. Y.
8 *Roentgenotherapy of Gynecologic Conditions. G. E. Pfahler, Philadelphia.
9 *Present Status of Roentgenotherapy of Enlarged Thymus. S. Lange, Cincinnati, Ohio.
10 Device for Using Constant Stream of Water in Water Cooled Tube. G. E. Pfahler, Philadelphia.
11 *Fracture of Skull with Air in Ventricles. W. H. Stewart, New York.

7. **Technic in Roentgenotherapy.**—The fractional unmeasured roentgenotherapy technic is unsparingly condemned by Holding. He states that the only way to safeguard patients is to insist that the technic must be followed out carefully and that no area of skin shall be given more than an erythema dose unfiltered and not more than 1½ times the erythema dose with the rays filtered through at least 3 mm. of aluminum. He believes it would also be wise to dehematise the skin by compression during the treatment.

8 and 9. Abstracted in THE JOURNAL, November 15, p. 1842.

11. Abstracted in THE JOURNAL, November 8, p. 1743.

American Journal of Tropical Diseases and Preventive Medicine, New Orleans

December I, No. 6, pp. 425-488

12 Effects of Certain Drugs on Pathogenic Entamebae of Human Intestines. W. M. James, Ancon, C. Z.
13 *Way to Vaccinate. I. Dyer, New Orleans.
14 Cestode Monstrosities. H. McCulloch, Washington, D. C.
15 Hygiene in Philippine Schools. A. J. McLaughlin, Washington, D. C.
16 Life-History of Dermatobia Hominis. F. Knab, Washington, D. C.

13. **Way to Vaccinate.**—The vaccination process should stop at the vesicle and in order to make sure of this, Dyer says, the physician should see to it that the eruption stops with the vesicle, by purposefully breaking the vesicle and treating the site antiseptically. This practice, Dyer has followed for nearly twenty years, with a happy satisfaction in the knowledge that the proverbial "sore arm" is prevented and that the scar of vaccinia is either avoided, or is reduced to a *minimum*.

The way to vaccinate should be based on the following technic: Clean the area thoroughly with soap and water; follow with alcohol sponging. Be sure the alcohol dries off well, so as to leave the area aseptic but not antiseptic. Vaccinate by any aseptic method; the writer usually employs the point coming with the glycerinized vaccin and the area is scarified. Cover the area of vaccination at once with sterile cotton and hold in place with collodion. A shield may be used over this dressing to prevent its removal. Conduct the vaccination as you would any other surgical case. Have the patient return on the third, fifth and seventh days. If there are no symptoms of itching, or of pain, do not remove the dressing until the fifth or seventh day.

On the day the dressing is removed, if there is no sign of vesiculation, reapply sterile dressing as before. On the seventh day, look again for the vesicles; if none, repeat dressing. Do this every two days until the tenth or twelfth day. If no vesicles show, revaccinate and proceed as before. If the vesicle shows at any dressing, brush the surface with tincture of iodin, then carefully clip the top off of the vesicle with a pair of sterile scissors. Paint the base of the vesicle with a thirty grain to the ounce solution of nitrate of silver, or with pure phenol (followed with alcohol). Put on a sterile dressing, or an antiseptic dressing. Change the dressing every two days. At the end of four or six days, there is a dry crust (not pustulating). Now the patient can take care of the wound, with a dressing of ichthyol (20 grains), phenol (10 grains), ointment (oxid of zinc ointment, 1 ounce), changed night and morning. The evils of vaccination, particularly those incidental conditions following the pustulating arm, Dyer claims, are prevented by such a procedure. There can be no impetigos, and erythema multiforme and its congeners cannot result from pus absorption.

Annals of Ophthalmology, New Rochelle, N. Y.

January, XLIII, No. 1, pp. 1-116

17 Enucleation with Implantation of Hollow Gold or Glass Sphere. A. Greenwood, Boston.
18 Practical Points Connected with Operative Treatment of Glaucoma. G. L. Johnson, Johannesburg, South Africa.
19 Absence of Cicatrization in Iris after Operation or Injury. M. McBurney, New York.
20 Case of Sarcoma of Lachrymal Sac. T. H. Butler, Birmingham, England.
21 Metal in Eye after Magnet Extraction. A. F. Mattice, Seattle, Wash.
22 New Aspects of Gout and Their Relation to Gouty Diseases of Eye. L. Lichtwitz, Göttingen.
23 Disease of Ocular Nerves in Diabetes Mellitus. M. Hoffmann, Munich.
24 Increased Intraocular Tension Due to Burns and Corrosive Injuries of Eye. R. Kuemmell, Erlangen.
25 Intraocular Tension in Passive and Active Motion of Eyeball. R. Lederer, Wuerzburg.

Arizona Medical Journal, Phoenix

January, II, No. 1, pp. 1-48

26 Status of Brain Surgery in Mental Disturbances. W. G. Randell, Florence.
27 American Insects and Arachnids Concerned in Transmission of Disease. A. W. Morrill, Phoenix.
28 Relation of Medical Profession to Society. J. E. Bacon, Phoenix.
29 Medical Science and the Criminal. G. W. P. Hunt, Phoenix.

Boston Medical and Surgical Journal

January 1, CLXX, No. 1, pp. 1-36

30 Carbon Monoxid Poisoning. W. H. Robey, Boston.
31 Old and Recent Ideas Concerning Treatment of Flat-Foot. H. W. Marshall, Boston.
32 Hair Cast of Stomach with Report of Case. G. A. Moore, Brockton, Mass.
33 Workmen's Compensation Law and Physician. J. B. Carroll, Boston.
34 Passing of Paranoia. J. B. MacDonald, Hathorne, Mass.

January 8, No. 2, pp. 37-76

35 *Effect of Digitalis on Blood-Pressure and Pulse-Pressure in Presence of Cardiac Decompensation. C. H. Lawrence, Boston.
36 Rectal Alimentation. H. W. Goodall, Boston.
37 Study of Leukemia. A. M. Burgess, Boston.
38 Office of Coroner and Medical School at Syracuse. H. G. Weiskotten, Syracuse, N. Y.
39 *Simple and Effective Method for Disinfection of Typhoid Stools. H. Linenthal and H. N. Jones, Boston.
40 Cancer of Lower Lip. J. C Bloodgood, Baltimore.

35. **Effect of Digitalis on Blood-Pressure, etc.**—The effects of various drugs on the blood-pressure, as determined by experiments on animals, in Lawrence's opinion do not furnish reliable criteria for the administration of such drugs to man, since the effect may be quite different in the latter. The pressure-raising effect of digitalis noted by him in animals and in healthy individuals did not occur, as a rule, when the drug was administered to individuals suffering from cardiac decompensation. The cause of the cardiac decompensation did not appear to affect the action of the drug. He states that digitalis preparations may be safely administered to patients suffering from arteriosclerosis, angina pectoris, or nephritic hypertension, if cardiac decompensation is present; under such conditions it rarely causes a rise in blood-pressure.

Of twenty-six cases studied by Lawrence five, or 19 per cent., showed a rise in systolic pressure, the greatest increase noted being 30 mm. There was present in this case an acute infection, involving the heart and kidneys. Of the group of cases showing a rise in systolic pressure, none showed a diuresis. Four cases, or 15 per cent., showed no change in systolic pressure. Of these, none showed a diuresis. Seventeen cases, or 66 per cent., showed a fall in systolic pressure either during or immediately after the administration of digitalis preparations. Of these, 88 per cent. showed a diuresis. Only one case showed a rise in diastolic pressure. There was no diuresis. Four cases, or 15 per cent., showed no change in diastolic pressure. Of these, 75 per cent. showed a diuresis. Twenty cases, or 74 per cent., showed a fall in diastolic pressure, 63 per cent. of these showing a diuresis. Twelve cases, or 45 per cent., showed an increased pulse pressure, a diuresis occurring in 50 per cent. of this group.

39. **Disinfection of Typhoid Stools.**—The method referred to by Linenthal and Jones was devised by Dr. A. M. Kaiser in the Hygienic Institute of Gratz University. It consists of adding enough hot water to cover the stool in the receptacle and then adding about one-fourth of the entire bulk of quick lime (calcium oxid), covering the receptacle and allowing it to stand for two hours. The hydration of the lime generates enough heat to destroy the typhoid organism. While cold water may often suffice, it cannot be depended on owing to the variable quality of the lime. Hot water from 50 to 60 C. will always give the desired results. The lime used should be in lumps, broken up in small pieces and distributed over the stool.

Colorado Medicine, Denver

December, X, No. 12, pp. 359-396

41 Abderhalden's New Views on Metabolism. P. Hillkowitz, Denver.
42 Abderhalden's Pregnancy Test—Preliminary Report. W. W. Williams and C. B. Ingraham, Denver.
43 Acidosis. C. N. Meader, Denver.
44 Present-Day Tendency in Treatment of Tuberculosis. M. Collins, Denver.

Indiana State Medical Association Journal, Fort Wayne

December, VI, No. 12, pp. 531-586

45 *Symptomatology and Diagnosis of Chronic Bright's Disease. G. W. McCaskey, Fort Wayne.
46 Renal Pathology and Urinary Findings in Chronic Bright's Disease. H. R. Alburger, Indianapolis.
47 *Vascular Changes Secondary to Chronic Bright's Disease. C. F. Neu, Indianapolis.

48 *Eye Lesions of Chronic Bright's Disease A E Bulson, Fort Wayne
49 *Influence of Kidney Lesions in Determining Selection of Anesthetics and Surgical Risks M F Porter, Fort Wayne
50 Medical Citizenship J B Maple, Shelburn

45, 47, 48 and 49 Abstracted in The Journal, Oct 11, p 1399

Journal of Experimental Medicine, New York

January, XIX, No 1, pp 1 120

51 *Does Cardiac Rhythm Alone Determine Human Blood Pressure Variations? C J Wiggers New York
52 *Growth of Bacteria on Media Containing Various Anilin Dyes C Krumwiede and J S Pratt, New York
53 *Acid Agglutination of Pneumococci L J Gillespie, New York
54 *Immunologic Study of Pneumococcus Mucosus F M Hanes, New York
55 *Causation by Filterable Agents of Three Distinct Chicken Tumors P Rous and J B Murphy, New York
56 *Observations and Experiments on Goiter (So Called Thyroid Carcinoma) in Brook Trout (Salvelinus Fontinalis) D Marine, Cleveland
57 *Tetany in Dogs D Marine, Cleveland
58 *Experimental Hydrocephalus W S Thomas, St Louis

51 Does Cardiac Rhythm Determine Blood-Pressure Variations?—Changes in cardiac rhythm, Wiggers claims, are not the only determinants of blood pressure variations in man They play a part in the variations of systolic and diastolic pressures, the relative importance of which depends on the degree of arhythmia present and on the depth of respiration which, in itself, causes the systolic and diastolic pressures to decrease during inspiration and increase during expiration No degree of rate variation can be regarded as a type The cases range from those in which respiration governs the change of pressures entirely through those in which more or less complicated mixtures of heart rate and respiratory influences intermingle to those in which extreme cardiac variations alone determine the pressure changes The emphatic insistence of Henderson and his collaborators that heart rate changes play a more important part than is commonly recognized in man, Wiggers says, is true in many cases That, in certain cases, it is the only determining influence may also be admitted, but they are in the minority The majority show the intervention of a respiratory influence which controls, at least, the variations of systolic pressure In the light of these results, the doctrine that, in man, an effective venous pressure exists sufficient during all respiratory phases to insure superimposable beats, must be subjected to further investigation

52 Effect of Anilin Dyes on Growth of Bacteria.—Gentian violet and allied anilin dyes according to Krumwiede and Pratt, have a similar influence on bacterial growth, dividing bacteria into two groups corresponding in general to their reaction to the Gram stain Among Gram negative bacteria a strain is occasionally encountered which will not grow on violet agar, differentiating it from other members of the same species or variety The reaction is quantitative, although the quantitative character is more marked with some species than with others The streptococcus pneumococcus group differ from other Gram positive bacteria in their ability to grow in the presence of amounts of dye sufficient to inhibit the other species The dysentery bacillus group shows marked variation in the presence of dyes In the case of fuchsin the variation approaches closely a specific difference between the dysentery and paradysentery groups The variations of the latter groups with other dyes show no correlation with the common differential characteristics A closer study might reveal variations in other characteristics which would parallel the different reactions to dyes Decolorization with sodium sulphite robs the dyes of some of their inhibitive powers

53 Acid Agglutination of Pneumococci.—Eight strains of pneumococci of serological Type 1, eight strains of Type 2, and eleven strains belonging to neither type were tested by Gillespie by the method of acid agglutination Strains belonging to the two typical groups have, as a rule, narrow zones of agglutination. The optimum hydrogen ion concentrations are different in the two cases Other pneumococci have broad zones or, in a few cases, narrow zones not coincident with those occupied by the typical organisms The agglutination of most of the pneumococci of Types 1 and 2 is extremely susceptible to the inhibiting action of salts This is not true of the other pneumococci Old broth cultures may show an optimum hydrogen ion concentration different from that shown by young broth cultures

54 Immunologic Study of Pneumococcus Mucosus.—The organisms described by Schottmuller under the name *streptococcus mucosus* represent a well defined group with characteristics which Hanes says indicate a closer relationship to the pneumococci than to the streptococci The members of this group are specifically agglutinable when treated according to the method of Porges They do not agglutinate when subjected to the usual agglutination methods. Complement fixation experiments with these organisms, compared with similar experiments with two varieties of pneumococci and two streptococci, indicate that they are closely related to the pneumococci No protection of mice against *pneumococcus mucosus* by means of specific immune serums could be demonstrated Hanes suggests that the name *pneumococcus mucosus* should be adopted for this group instead of *streptococcus mucosus*

55 Causation of Chicken Tumors—A causative agent has been separated by Rous and Murphy from three chicken tumors of very different sort, namely a spindle celled sarcoma, an osteochondro sarcoma and a spindle celled sarcoma peculiarly fissured by blood sinuses This was accomplished after the tumors had been transplanted repeatedly and their malignancy enhanced Each of the tumor producing agents is a distinct entity in that it gives rise only to growths of the precise kind from which it has been derived All pass through Berkefeld cylinders impermeable at the same test to small bacteria, and two of the three retain their activity in tumor tissue that has been dried or glycerinated All are strikingly dependent for their action on derangement of the tissue with which they are brought in contact The general findings strongly suggest that the agents are of about the same size, and of the same natural class Rous and Murphy believe that it is perhaps not too much to say that their recognition points to the existence of a new group of entities which cause in chickens neoplasms of diverse character.

56 Goiter in Brook Trout.—Marine found that goiter in fish is a non infectious, non contagious, symptomatic manifestation of a fault of nutrition, the exact biochemical nature of which has not been determined Feeding the highly artificial and incomplete diet of liver is the major etiologic factor in bringing about this fault of nutrition which is at once corrected by feeding whole sea fish Water plays no essential part in the etiology, transmission or distribution of the disease in the fish of this hatchery

57 Tetany in Dogs—Accessory parathyroid tissue unassociated with the thyroid lobes is present in 5 to 6 per cent of dogs For the determination of the presence of accessory parathyroid tissue there are two tests (1) the anatomic, often entailing serial sections of the neck and upper thoracic structures and (2) the biological, consisting of the daily use of some calcium salt for two to three weeks The latter is more easily carried out and more accurate In the absence of all parathyroid tissue calcium salts will not save the animal's life, while in the presence of active parathyroid tissue calcium will save it Many factors other than the amount of parathyroid tissue removed influence the onset of tetany, among which are age, pregnancy, lactation, rachitis, the administration of sulphur and diet

58 Experimental Hydrocephalus—Thomas found that internal hydrocephalus can be produced experimentally by injecting a foreign substance into the ventricles In these experiments, aleuronat, a granular, insoluble material, has caused an acute inflammatory reaction, characterized in the first week by an exudate consisting largely of polynuclear leukocytes Later the picture is one of a chronic process, polynuclear cells are replaced by lymphoid and large mononuclear cells and there is proliferation of the connective tissue in the choroid plexus Proliferation of the ependyma occurs in the first week but becomes more advanced in the second and third weeks, and there is increase in neuroglia more marked in the long con tinued experiments Ordinarily when aleuronat is injected into a serous cavity, the pleural cavity, for example, abundant accumulation of fluid takes place in twenty four to forty eight hours, and at the same time polynuclear leukocytes collect

In the experiments in which the irritant was injected into the ventricle of the brain there was little or no dilatation apparent in the first week, absence of dilatation in all probability is due to the free outflow of the fluid When obstruction occurs during the chronic stage of the inflammatory process dilatation of the ventricle follows Choked disk and other symptoms of increased intracranial pressure accompany experimental hydrocephalus Dilatation occurs slowly and reaches a maximum in about two months In some of the experiments of longer duration obstruction can be demonstrated in gross or microscopically

Obvious obstruction has not been found by gross examination in all instances, but in the experiments in which India ink was injected into the ventricle before death, obstruction to outflow was very readily demonstrated The third and fourth ventricles were in all instances filled with the pigment, but none appeared on the surface of the brain, whereas in normal dogs the entire surface, especially the base, became deeply pigmented Obstruction to the circulation of cerebrospinal fluid causing internal hydrocephalus may occur at the foramen of Monro, in the aqueduct of Sylvius, or, doubtless with greatest frequency, at the foramen of Magendie

Journal of Nervous and Mental Disease, Lancaster, Pa

December, XL, No 12 pp 753 824

59 Future of Neurology C L Dana New York
60 Anterior Crural Neuritis (to be continued) C M Byrnes Baltimore
61 Analysis of Errors in Diagnosis in Series of Sixty Cases of Paralysis S T Orton Worcester, Mass

Journal of Outdoor Life, New York

January, XI, No 1, pp 1 30

62 New Devices for Outdoor Sleeping T S Carrington, New York

Journal of Pharmacology and Experimental Therapeutics, Baltimore

January, V, No 3 pp 215 316

63 *Mode of Action of Strophanthin on Cardiac Tissue A J Clark London
64 Time Recorder for Kymograph Tracings O E Closson, Detroit Mich
65 *Mechanism of Stimulation of Medullary Centers by Decreased Oxidation H S Gasser and A S Loevenhart, Madison Wis
66 *Removal of Diffusible Substances from Circulating Blood of Living Animals by Dialysis J J Abel L G Rowntree and B B Turner, Baltimore

63 **Action of Strophanthin on Cardiac Tissue**—Clark found experimentally that the primary effect of strophanthin on the isolated heart is to increase the force of contraction, in the fresh heart the force of the auricular contraction is increased markedly but the force of the ventricular contraction less markedly In the hypodynamic heart the force of contraction of both auricle and ventricle is increased greatly The systolic action of strophanthin is opposed by the presence of acid, by the absence of calcium, and by the hypodynamic condition The action of strophanthin in impairing the rate of conduction is not antagonized, but rather increased by the above conditions This action, moreover, is not antagonized by any other changes in the ionic content of Ringer The action of strophanthin on conduction appears to be largely independent of its action on contraction The acids produced by the heart and which accumulate when perfusion is arrested, can be shown to antagonize the systolic action of strophanthin, and this fact explains why hearts, arrested in systole by strophanthin often relax into diastole and also why hearts in which the conduction is impaired, before any systolic action has been produced, usually die in diastole and not in systole

65 **Stimulation of Medullary Centers**—By decreasing the oxidative processes, Gasser and Loevenhart determined the latent periods of their stimulation of the medullary centers This was accomplished by the administration of carbon monoxid or sodium cyanid The latent periods were found to be so short that the stimulation could not be attributed to the accumulation of acid products They therefore feel forced to the conclusion that oxygen want is of itself a stimulus to the medullary centers

They have shown by a direct method that carbon monoxid stimulates the vasomotor center The early fall of blood-pressure so often produced by carbon monoxid is due to its direct action on the heart The medullary centers respond to the anoxemia produced by carbon monoxid, first by stimulation and then by depression The centers are stimulated and then depressed in the following order respiratory, vasomotor and cardio inhibitory Support is given to the theory that the activity of the medullary centers depends on the condition of their oxidative processes

A theory is tentatively advanced to account for the stimulation of the medullary centers by oxygen want or decreased oxidation according to which the oxidative processes occurring within the cell are of two types those not requiring free oxygen, and of which functional activity is the external expression, and those requiring free oxygen and which result in the storing of potential energy and the removal of the products of activity Stimulation of the latter processes automatically depresses the reactions of activity and depression of the processes characteristic of rest and recovery automatically stimulates those processes of which functional activity is the external expression

66 **Removal of Diffusible Substances by Dialysis**—The principle of the method used by the authors consists in connecting an artery of the animal by a cannula to an apparatus made of celloidin or other dialyzing membrane in the form of tubes, immersed in a saline solution or serum, and providing for the return of the blood to the animal's body by another cannula attached to a vein The tubes and cannulas are filled completely before attachment with a saline solution which approximates in composition to the salt content of the serum of the animal This is displaced into the body by the inflow of blood, when the circulation in the apparatus is established The blood leaving the artery flows through a perfectly closed system and returns to the body within a minute or two without having been exposed to contact with the air or any chance of microbial infection, while the diffusible substances which it contains can pass out more or less rapidly through the walls of the tubes Coagulation of the blood is prevented by injection of hirudin The substitution in the animal's body of saline solution for an equal volume of blood leaves the physiologic condition as nearly as possible unchanged and chemical results obtained by this method may be expected to represent normal conditions very closely, closer, e g, than when large quantities of blood are drawn off for analysis Two animals have made rapid and complete recovery after being subjected to the procedure for two and three hours respectively

Kansas Medical Society Journal, Kansas City

December XIII, No 12, pp 467 506

67 Benzol Treatment of Leukemia L S Milne, Kansas City
68 Irresponsible Medicine N Hayes Seneca
69 Effects of Explosion of Dynamite Caps on Tympanum and External Ear R S Magee Topeka
70 Relation of Physician and Editor J L Napier, Newton

Kentucky Medical Journal, Bowling Green

December 15, XI, No 24, pp 1043 1078

71 Ocular Symptoms in Hysteria and Neurasthenia S G Dabney, Louisville

Michigan State Medical Society Journal, Grand Rapids

January, XIII, No 1, pp 1 72

72 *Diagnosis and Treatment of Tuberculosis O W McMichael, Chicago
73 *Emptying Uterus as One of Methods of Treating Antepartum Eclampsia R Peterson Ann Arbor
74 *Chronic Cystic Mastitis E S Judd Rochester Minn
75 Roentgenoscopy of Lungs A W Crane, Kalamazoo
76 Attitude of General Practitioner toward Tuberculosis Problem J B Jackson Kalamazoo
77 Cancer and Plea for Earlier Diagnosis S Levin Lake Linden
78 Fractures from Medicolegal Standpoint F B Tibbals, Detroit

72 **Von Ruck's Treatment of Tuberculosis**—McMichael speaks highly of K von Ruck's vaccine He emphasizes that unlike many preparations presented to the profession, there

is absolutely no secrecy regarding the preparation or the details of its manufacture, and any reputable physician is welcomed and afforded every opportunity to study every phase of the work. This remedy, which is a vaccine containing all the soluble products of the tubercle bacillus, in proportions differing from those found in the tubercle bacillus as shown by chemical analysis. After a person, not infected with tuberculosis receives an injection of this preparation his serum develops the property of completely dissolving and destroying the tubercle bacillus in a test tube, a property which his serum did not possess before treatment. When the contents of this test-tube containing the tubercle bacilli killed by the patient's serum, without the addition of any other product are injected into an animal, the animal does not develop tuberculosis. McMichael's experience in treating more than two hundred children and adults with the vaccine has given him many convincing proofs of its efficacy. While this remedy is distinctly not a cure for tuberculosis, he says, it will do all that any of the present known specific products will do toward checking the ravages of the disease, and further, we have in this vaccine, as delicate a diagnostic aid as any we possess, with the added advantage that while using it for diagnostic purposes, we are at the same time employing a remedial agent.

73. **Emptying the Uterus in Eclampsia.**—Since the pregnant state is primarily responsible for eclampsia, Peterson states that the best interests of such patients are promoted by terminating the pregnancy as soon as this can safely be accomplished. The wasting of valuable time in other forms of treatment before operative delivery, is responsible, in great part, for the poor results of treatment in antepartum eclampsia. This is also aided by the selection of the wrong method of delivery of the antepartum eclamptic, whereby the patient is subjected to prolonged anesthesia and trauma and by the resulting sepsis from improper technic in patients whose powers of resistance are greatly lowered by the action of the eclamptic poison. The eclamptic should be delivered as soon as possible after the first convulsion, by the operation giving rise to the least shock and trauma. The eclamptic patient should be delivered first and then elimination started, rather than the reverse. Fortunately, the treatment best adapted to the eclamptic mother, is equally good for her child. Hence, immediate delivery after the first convulsion will result in a low fetal as well as a low maternal mortality.

74. **Chronic Cystic Mastitis.**—Judd believes that chronic cystic mastitis has a definite relationship to cancer of the breast and in many instances may be considered a precancerous condition. In cases suspicious as to malignancy, a radical operation for cancer should be performed. In cases of chronic systic mastitis that cannot either clinically nor pathologically be diagnosed as to malignancy, the conservation amputation with removal of the gland-bearing fascia is the operation of choice.

Mississippi Medical Monthly, Vicksburg

January, XVIII, No. 9, pp. 167-186

79 Surgery of Thyroid. L. B. Austin, Rosedale.
80 Kidney Disease as Sequel of Tonsillitis. T. Riddell, Dublin.
81 Gastro-Intestinal Intoxication. B. C. Tubb, Smithville.
82 Bulgarian Bacillus Baby. J. W. Gray, Clarksdale.

Pennsylvania Medical Journal, Athens

December, XVII, No. 3, pp. 169-252

83 Axial Myopia—Etiology and Prophylaxis. L. C. Peter, Philadelphia.
84 Commission of Conservation of Vision: Report of Chairman. W. C. Posey, Philadelphia.
85 Visual Requirements in Railway and Traction Services; and Protection of Eyes of Workmen in Large Shops. B. Chance, Philadelphia.
86 Ophthalmia Neonatorum. T. B. Holloway, Philadelphia.
87 Mechanotherapy; Outline of Its Resources and Limitations. J. M. Taylor, Philadelphia.
88 Mechanical and Physical Agents, Special Reference to Radium. W. H. Cameron, Pittsburgh.
89 Salvarsan and Neosalvarsan in Syphilis, with Special Reference to Diseases of Eye. A. A. Uhle and W. H. Mackinney, Philadelphia.
90 Studies in Serodiagnosis of Syphilis. J. A. Kolmer and A. J. Casselman, Philadelphia.
91 Transmutation of Tumors. W. L. Estes, South Bethlehem.
92 *Social Evil. E. Martin, Philadelphia.
93 Present Status of Operative Treatment of Appendicitis. S. D. Molyneux, Sayre.
94 Extra-Uterine Pregnancy at Full Term. W. D. Hamaker, Meadville.

92. Abstracted in THE JOURNAL, Oct. 11, p. 1398.

Philippine Journal of Science, Manila

October, VIII, No. 5, pp. 333-400

95 *Experimental Balantidiasis. E. L. Walker, Manila.
96 Influence of Compensated Salt Mixtures on Development of Polyneuritis Gallinarum and Beriberi. R. B. Gibson, Manila.
97 Unusual Disease Prevailing in Epidemic Form at Buhi, Ambos Camarines, P. I., M. A. Barber, Manila.
98 Infection of Achlya with Various Microorganisms. M. A. Barber, Manila.
99 Acute Malignant Glanders in Man. W. E. Musgrave and A. G. Sison, Manila.
100 Noma in Philippines: Report of Case. C. M. Reyes, Manila.
101 Varioloid in Manila. P. M. Ashburn, E. B. Vedder and E. R. Gentry, Manila.

95. **Experimental Balantidiasis.**—Parasitization of man with *Balantidium coli*, Walker states, is relatively common in the Philippine Islands. The balantidia appear in the stools of parasitized individuals only at irregular intervals, and consequently infections, unless accompanied by clinical symptoms, may frequently be overlooked. A large proportion of the pigs in and about Manila are parasitized with balantidia. Balantidia are passed in the resistant encysted stage more or less constantly in the stools of parasitized pigs. Morphologically *Balantidium coli suis* is identical with *Balantidium coli hominis*. Every person parasitized with Balantidium coli is liable sooner or later to develop balanatidial dysentery. Walker advocates that efficient prophylactic measures against balantidiasis in the Philippines should be directed against these animals, which should be confined and not allowed to run in yards and dwellings.

South Carolina Medical Association Journal, Seneca

December, IX, No. 12, pp. 330-360

102 Essential Hematuria. J. H. Taylor, Columbia.
103 Fracture-Dislocation of Seventh Cervical Vertebra. S. O. Black, Spartanburg.
104 Ascaris Lumbricoides and Report of Cases. B. Haynes, Spartanburg.
105 Treatment of Cancer. G. H. Bunch, Columbia.
106 Sims Memorial. G. T. Tyler, Greenville.
107 Gunshot Wounds of Abdomen. D. L. Maguire, Charleston.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

Nov. 22, XXXIV, No. 21, pp. 475-498

1 Induction of Pneumothorax for Cure of Pulmonary Tuberculosis. C. Reissmann.
2 Case of Syringomyelia. A. W. Campbell.

Dec. 6, No. 23, pp. 521-540

3 Defective Growth in Relatives, Investigated by Roentgenoscopy. H. Rischbieth.

Dec. 13, No. 24, pp. 541-562

4 Two Cases of Tuberculous Peritonitis. A. J. Nyulasy.
5 Radical Treatment of Trachoma. C. Shepherd.

Bristol Medico-Chirurgical Journal, London

December, XXXI, No. 122, pp. 289-390

6 Specialism and Medical Curriculum, Mainly in Reference to Otology, Rhinology and Laryngology. P. Watson-Williams.
7 Protective Ferments. I. W. Hall.
8 Cerebral Symptoms of Lobar Pneumonia in Children. F. H. Edgeworth.
9 Medical Observations in Clifton Zoological Gardens, and Birth of Two Russian Bear Cubs in Captivity. A. J. Harrison.
10 Splenectomy for Splenomegaly. J. A. Nixon.
11 Id. E. H. Groves.
12 Pericolitis. T. Carwardine.
13 Apparatus for Intratracheal Administration of Ether. F. E. Shipway.
14 Combined Manometer and Safety Valve for Intratracheal Anesthesia. S. V. Stock and J. D. Fry.
15 Simple Apparatus for Intratracheal Anesthesia. E. W. H. Groves.

British Medical Journal, London

December 27, II, No. 2765, pp. 1617-1652

16 *Nature of Old Age and of Cancer. H. Gilford.
17 Intratracheal Insufflation of Ether. F. E. Shipway.
18 Case of Ruptured Aneurysm of Descending Aorta. W. H. Mackinlay and L. M. Weeks.
19 Case of Spontaneous Hemo-Pneumothorax. T. Bushby.
20 *Lithopedion. J. B. Fraser.

16 **Nature of Old Age and of Cancer**—Gilford suggests that it may be possible to explain everything that happens in cancer in terms of senility Superficially the cancer process seems very different from the old age process, but if we ignore these superficial distinctions and fix our attention on the more fundamental changes, we see that in reality both are formed on the same plan and are actuated by the same motive Thus, the typical cancer is made up of a collection of cells native to the part but of more embryonic type, and these cells are surrounded by collections of round indifferent cells derived from fibrous tissue and from other low class structures, such as endothelium and leukocytes The fibrous tissue, moreover, is often increased, as it is in the senile organ These changes may be interpreted as follows.

Certain somatic cells become aged while the tissues around them are still in a state of comparative youth They express their senility by returning to a more embryonic form, and as they do so they increase in number, the faculty of multiplication being one of the manifestations of regression But as this qualitative change takes place they become alien to their surroundings, and, as foreigners or rebels, stimulate into action the mechanism of phagocytosis Not only is there an incursion of lymphocytes into the parts, but the connective tissue and endothelial cells in their vicinity revert to their embryonic state and begin the work of phagocytosis But as a fact they have to deal neither with the effete products of molecular degeneration nor with an inert foreign body, for though virtually strangers, cancer cells are by no means inactive

Hence the attack is abortive, except in so far as the phagocytes, by forming new fibrous tissue, tend mechanically to limit the proliferation of the cancer cells For in the meantime the fixed connective tissue cells are themselves rapidly proliferating, with the result that when they cease their activity and return to their resting stage groups of cancer cells are cut off by intersecting bundles of fibrous tissue, while the whole mass is surrounded by an incomplete capsule of the same structure This tends to limit the encroachment of the growing cancer, and were it not for the lymph spaces or capillaries, which are the gaps through which the growing cells escape, no doubt the limitation and strangulation of cancers would occur far more often than they do

The more nearly the cells of a cancer approach the embryonic state the more rapid will be the growth, the less opportunity for fibrosis the more malignant the cancer In senile decay the cells of highest type, or the more specialized cells, do not proliferate but undergo molecular decay, whereas those of lowest type express their degeneration not in decay, but in proliferation So, also, cancer elements are never derived from these same higher kinds of cells, but invariably from the lower kinds Moreover, the lower the type of cells to become the basis of the cancer process the greater is its malignancy It is neither the appearance of phagocytes, nor the increase of fibrous tissue, nor the proliferation of the cancer cells, which constitutes the cancer process The root of the matter lies in the fact that the cancer cells have receded from a state of comparatively high development to a state of comparatively low development Regression is the motive which prompts and animates the whole series of changes

20 **Lithopedion**—The case presented by Fraser has three interesting points (1) The marked reduction in size and weight that took place during calcification (2) The length of time it was carried by the mother, namely, forty two years—possibly the world's record (3) The comparatively slight disturbance it caused for almost forty years, and then only indirectly, as the costiveness was caused by the fibromyoma narrowing the lumen of the intestine to one third of an inch Early in the year 1870 a small, active woman, then aged 25 years who had had three children, became pregnant for the fourth time Matters progressed as usual for six months then seemed to stand still, later the milk left the breasts, fetal movements lessened and finally ceased Her girth decreased, and in a few months only a firm mass was felt at the brim of the pelvis

Anxious and puzzled, she consulted a doctor, who doubted that she had been pregnant, and advised leaving the mass alone as long as no serious inconvenience was felt She followed his advice, and as time passed she had four more children, at each pregnancy the mass rose with the growth of the fetus, and returned to its old position after the birth of the child

In January, 1912, she consulted Fraser for long continued costiveness, which she said was increasing She did not then tell him of the events of 1870 He tried cathartics with only temporary relief, then suspecting obstruction an examination showed more than one mass in the pelvis He operated and found a lithopedion at the brim of the pelvis, the head was easily movable, but the lower part of the body was almost surrounded by firm cartilaginous bands attached to the uterus, omentum and intestines The calcified placenta was found opposite the third sacral vertebra, and so bound down by adhesions that it was difficult to remove it To make matters worse, a fibromyoma had formed in a loop of intestine where it touched the placenta, thus Fraser had to resect over 3 inches of the intestine, the adhesions made this much more difficult The head was covered by a thin membrane containing some blood vessels, the anteroposterior circumference was 8¾ inches and the occipital menti circumference 9⅛ inches, the frontal, parietal and occipital bones were well marked, and there was only a slight depression of the fontanelles, the eyes, nose, chin and mouth were easily seen, the head was flexed and turned toward the left shoulder, and had a rough, stony feel The legs and arms were flexed, with their outlines more visible on the right side, the ribs on the right side were easily seen, but the spinal vertebrae were indistinct The placenta, somewhat biconvex, and with the center more friable than the outer surface, measured 9¼ inches in circumference, and was ⅞ of an inch thick in the center

Indian Medical Gazette, Calcutta

December, XLVIII, No 12, pp 457-496

21 Typhoid Paratyphoid Vaccination with Mixed Vaccines A Castellani
22 Treatment of Depressed Fractures of Skull at Rangoon General Hospital during Last Four Years C C Barry
23 *Two Cases of Abdominal Cysts L P Stephen*
24 Disease Carriers in Army in India P Hehir
25 *Renal Case and Relief of Renal Pain by Washing Out Pelvis of Kidney Through Urethral Catheter D Munro
26 Malaria and Color W H Kenrick

25 **Relief of Renal Pain**—The condition in the case cited seemed to Munro to justify an exploratory operation, and accordingly the kidney was exposed by the usual lumbar incision and brought out in the loin It was large No stone or tumor could be felt in the pelvis which was not dilated To outward appearances the whole kidney was absolutely healthy The pelvis was incised, and a probe passed down the left ureter to the bladder—it passed easily A sterile solution of methylene blue was injected into the opening made in the pelvis of the kidney and was immediately afterward recovered from the bladder The kidney was explored from side to side with a fine trocar, no stone was found, and no pus The opening in the pelvis was accordingly closed with fine catgut sutures which did not include the whole thickness of the wall, and the kidney replaced A drain was put in for twenty four hours

The wound healed by first intention, and for three weeks the patient was pleased with himself The paroxysms of pain then began again though slighter in degree and the urine was found to contain pus and red blood corpuscles Tubercle bacilli and bacillus coli communis were looked for, but not found A month after the operation Munro performed cystoscopy The left ureteric orifice was found to be a little reddened—the bladder was otherwise healthy in appearance The urethral catheter was passed for 9 inches up the left ureter, and 1 ounce of warm boric lotion injected At once a worm like caseous cast of the ureter began to squeeze its way out alongside the urethral catheter The catheter was withdrawn and was followed by a gush of pus The bladder was then relieved of the turbid fluid which it contained and which was obscuring the view, on refilling the bladder with clear lotion a number of caseous worms were seen lying on its base. The urethral catheter was again introduced and another ounce of warm boric lotion injected, which returned blood-stained. This procedure again relieved the patient, and he was free from severe attacks of pain for a month. The only kind of pain from which he suffered from then was apparently intestinal, at any rate it was quickly relieved by carminative mixture, and there was no tenderness on pressure over the kidney area.

Ten days after the second cystoscopy his urine still contained pus cells, and Munro determined to wash out the pelvis of the kidney again. At this, the third cystoscopy, three ounces of 0.5 per cent. silver nitrate solution were injected. Some turbid, but not caseous, pus escaped alongside the catheter on this occasion. The urine remained clear from then on till his discharge from the hospital a fortnight later.

Lancet, London

December 27, II. No. 4718, pp. 1818-1884

27 *Some Points in Diagnosis and Treatment of Granular Kidney. S. West.
28 Concussion Cataract: Its Medicolegal Aspect; with Report of Unusual Case. P. Dunn.
29 *Relation of Thyroid to Antitoxin. R. Farrant.

27. **Granular Kidney.**—Speaking of the use of a renal extract in granular kidney, West says that he has tried various methods, and for a time used a glycerin extract. He now uses an extract of kidney freshly prepared as required, using by preference the kidney of the pig, as being a mixed feeder, rather than the kidney of a vegetable feeder like the sheep. The great difficulty in obtaining evidence in favor of the usefulness of kidney extract in chronic renal disease, West points out, lies in the fact that its use must be continued for weeks or months before results can be expected; generally patience is exhausted before the time required, and the treatment given up because signs of improvement are not immediate. In granular kidney the cases come under observation so late in the disease, when the mischief is so far advanced, that much benefit can hardly be looked for. Yet he has seen some of the symptoms, especially headaches, relieved by this means when they had resisted other treatment and he cites a case in point.

The patient was a man, aged about 35, who had a typical chronic parenchymatous nephritis. He was passing a very large amount of albumin in the urine, was extremely anasarcous, with much ascites and a considerable pleuritic effusion on the right side. Both the abdomen and pleura had to be tapped more than once, but the fluid reaccumulated quickly. The man was regarded as a hopeless case. All the ordinary treatment was tried without success, the patient steadily went downhill, and the prospect seemed desperate. Renal extract was now given night and morning. In a few days he felt much better. The improvement soon became obvious, the effusions and the dropsy disappeared, slowly at first and then rapidly, and in about three weeks had vanished. The albumin in the urine also rapidly decreased, and on leaving the hospital about six weeks later amounted to a mere trace. The man was carefully watched for some months. He went back to work and remained well. West feels that his experience of some years justifies him in continuing and advocating the use of renal extract, but to be effectual in granular kidney it must be patiently and continuously perservered with for a long time.

Another case was that of a man 40 years of age, with the history that he was attacked with uremic fits about six months before West saw him, and on examination of the eye advanced albuminuric degeneration with much hemorrhage was discovered. A grave prognosis was given. West thought the case almost hopeless, but put him on renal extract, which was steadily persevered with for many months. He gradually recovered and is now well. The fact of his complete recovery from the eye as well as the renal symptoms makes West feel some hesitation about the correctness of the diagnosis, but the condition seemed plain enough at the time, and no one who saw him when first ill, either physician or ophthalmologist, had any doubt.

29. **Thyroid and Antitoxin.**—Farrant obtained the thyroids from fifteen horses that had received increasing doses of diphtheria toxin for a period of a year to eighteen months. It was found that they presented a varying degree of hyperplasia, but that when they were arranged in order, from the highest degree of hyperplasia to the lowest, they were in the reverse order of the antitoxic value of the serum. The apparently normal thyroid corresponded to the serum with the highest antitoxic value. Fifty-eight guinea-pigs were arranged in twenty-nine pairs, each of a pair being similar in appearance and weight. They were injected with different doses of diphtheria toxins. Half were otherwise untreated, the other half were given doses of thyroid powder. Eighteen—that is, nine pairs—were injected with doses of diphtheria toxin from 1 c.c. to 0.1 c.c. daily (a single minimal lethal dose was 1 c.c.); half of these pigs were otherwise untreated, the other half at the time and twenty-four hours previously were given thyroid powder by the mouth in doses from 0.06 to 0.01 gm. daily until they died. Four of the guinea-pigs given thyroid outlived the controls, 2 died before, and 3 died on the same day.

Six guinea-pigs were divided into three pairs, and every one received a single dose of toxin, from 1.4 to 1 c.c. Three were otherwise untreated; the other three were given a corresponding dose of emulsion made by pounding up six fresh guinea-pigs' thyroids with saline. Two of the guinea-pigs given thyroid lived the same number of days as the controls; the other one died two days before. Two rabbits were fed with 0.5 to 0.3 gm. of thyroid powder by the mouth every day for seven days; one had lost 42 per cent. of its weight, the other 15 per cent. They were bled out and the blood defibrinated and centrifugalized. The serum was injected in doses from 1 c.c. to 0.25 c.c. into 14 out of 28 guinea-pigs arranged in pairs. They were all given a single dose of 1½ times the minimal lethal dose of diphtheria toxin. Three of the guinea-pigs given the serum survived, 2 lived longer than the controls, 6 died on the same day, and the other 3 died before the controls. From this it is deduced that the serum of a thyroid-fed animal has practically no antitoxic value.

Annales de l'Institut Pasteur, Paris

November, XXVII, No. 11, pp. 893-1020

30 Toxicity of the Conjugated Sulphates of the Aromatic Series. (Etudes sur la flore intestinale. III.) E. Metchnikoff.
31 Germ of Rabies. (Le diagnostic de la rage par la démonstration du parasite spécifique.) L. Negri Luzzani. To be continued.
32 Antibodies and Animal Species. C. Levaditi and S. Mutermilch.
33 Regenerated Virus in Treatment of Rabies. O. Bujwid.

Bulletin de l'Académie de Médecine, Paris

December 2, LXXVII, No. 38, pp. 481-490

34 Chemico-Colloidal Mechanism of Senility and the Problem of Natural Death. G. Marinesco.

December 9, No. 39, pp. 491-537

35 Chronic Jaundice from Obstruction of Syphilitic Origin. J. Castaigne.
36 Artificial Lipoid Membranes. E. Fourneau.

Bulletins de la Société de Pédiatrie, Paris

November, XV, No. 9, pp. 461-515

37 *Treatment of Pott's Disease by Immobilization without Plaster Cast A. Broca and Trèves.
38 Social Service at the Hospital. Nageotte-Wilbouchewitch.
39 Loss of Minerals in Stool of Infant. (Les pertes minérales par les selles chez un nourrisson athrepsique.) A. B. Marfan, H. Dorlencourt and F. Saint-Girons.
40 Mongolian Blue Spot in Greece; Nine Cases. C. Macaronopoulos.

37. **Treatment of Pott's Disease.**—Broca and Trèves call attention to the cure of severe Pott's disease in five typical cases, described in detail, in which the children never left Paris, but spent three years stretched on a portable bed without other care than that given by their parents. They are now well and merely wear a small supporting corset as a precautionary measure. Lannelongue's technic was followed; it is not applicable when the family are not able to care properly for the child. Consequently the children of wage-earners require a plaster cast, as less attention is necessary with this.

Semaine Médicale, Paris

December 17, XXXIII, No. 51, pp. 601-612

41 Ante Partum Vaginal Douches in Prophylaxis of Puerperal Fever. R. de Bovis.

Archiv für Kinderheilkunde, Stuttgart

LX-LXI, pp. 1-818. A. Baginsky Festschrift

42 *Inherited Syphilis with Tardy Manifestations. (Zur hereditären Spätsyphilis.) G. Alsberg.
43 *Research on Action of Tuberculin. H. Aronson.
44 *Dysentery among Young Children. (Y-Ruhr bei Säuglingen und kleinen Kindern.) J. Bauer, Ellenbeck, Fromme, Siegel.
45 *Treatment of Rachitic Deformity. M. Böhm.
46 Negative Findings in Four Syphilitic Children over Two Years After Salvarsan Treatment. J. v. Bokay.
47 Rumination in Infants. (Zur Kenntnis des Wiederkäuens im Säuglingsalter.) H. Brüning.
48 *Tuberculosis in Infants. (Säuglingstuberculose.) J. Cassel.
49 *Acute Encephalitis in Children. J. Comby.
50 *Little's Disease; Eighty-Four Cases. L. Concetti.
51 Infants Should be Taken out of Tuberculous Environments. (Zur Frage: Stillen bei Muttertuberculose.) O. Cozzolino.
52 *Course of Tuberculosis in Children. (Erfahrungen über den Verlauf der Tuberkulose im Kindesalter.) A. Czerny.
53 Banti's Disease in Children. A. D'Espine.
54 Anatomy of Bronchi in Children. (Form, Lage und Lagerveränderungen des Bronchialbaumes.) S. Engel.
55 Variola in New-Born Infants. A. Epstein.
56 Infant Mortality in Baden. S. Felsenthal.
57 Reminiscences. (Erinnerungen aus den Lehr- und Wanderjahren.) R. Fischl.
58 The Pulse and Blood-Pressure in Children. R. Friberger.
59 Modern Operative Treatment of Peritonitis. T. Gluck.
60 Defective Development of Teeth in Relation to Rachitis and Spasmophilia. (Zahnschmelzdefecte in ihren Beziehungen zu Rachitis und den spasmophilen Zuständen des Säuglings- und des späteren Kindesalters.) H. Helbich.
61 Non-Pathologic Murmurs in Heart Region in the Young. (Bedeutungslose Geräusche in der Präcordialgegend.) C. Hochsinger.
62 Scarlatinal Lesions in the Adrenals. V. Hutinel.
63 Pediatrics in the United States. A. Jacobi.
64 Municipal Infant Welfare Work at Liége. (Die staatliche Säuglingsfürsorge in Lübeck.) J. Joel.
65 Contagiousness of Epidemic Poliomyelitis. (Zur Contagiosität der Heine-Medinschen Krankheit.) J. Langer.
66 Primary Acute Suppurative Inflammation of Salivary Glands in Infants. (Speicheldrüsenentzündung des frühen Säuglingsalters.) J. Lewin.
67 Spastic Paraplegia from Inherited Syphilis. A. B. Marfan.
68 Mode of Infection with Tuberculosis in Infants. O. Medin.
69 Chemical Composition of the Thymus. L. Mendelsohn.
70 Masturbation in Very Young Children. (Die Masturbation im vorschulpflichtigen Alter.) E. Neter.
71 Diagnosis by the Ophthalmoscope of Optic Neuritis. R. Paderstein.
72 *Importance of Training the Muscles in Children in Prophylaxis of Tuberculosis. (Muskelarbeit und Körperconstitution.) H. Roeder.
73 *Backward Children. (Schwachbegabte Kinder.) E. Schlesinger.
74 *Sterile Raw Milk. (Keimfreie Rohmilch.) A. Schlossmann.
75 Distribution of Diphtheria in the Heart Blood and in the Organs. P. Sommerfeld.
76 Electric Incubator. (Ueber die elektrische Sicherheitscouveuse—Baginsky-Hanfland.) W. Thiede.
77 A Russian Pioneer in Pediatrics. (Die Meinungen C. W. Hufelands über die Pädiatrie im Lichte der Jetztzeit.) J. W. Troitzky.
78 Prognosis of Tuberculosis in Infants. G. Tugendreich.
79 Acute Osteomyelitis and Osteoplastics in Children. Wachsner.
80 Relapsing Fever in Children. (Rückfallfieber bei Kindern in Odessa.) J. Winocouroff.
81 *Dispensary Tuberculin Treatment. (Zur ambulatorischen Tuberculinbehandlung der Scrophulose und kindlichen Tuberculose.) W. Wolff.
82 *Mistakes in Diagnosis of Poliomyelitis. (Fehldiagnosen bei Poliomyelitis.) J. Zappert.

42. **Inherited Syphilis with Tardy Manifestations.**—Alsberg reports a case of tertiary manifestations of syphilis in a child of 4 brought to the clinic on account of exophthalmos of one eye and caries of the skull. The local processes were benefited by iodid and mercury, but the general health suffered so much from the latter that they had to be stopped. There was no certain evidence of syphilis in the parents, and they refused to permit the Wassermann test in the family.

43. **Action of Tuberculin.**—This communication from Baginsky's service asserts as the result of years of clinical and experimental research on the subject, that tuberculin has no immunizing effect. This fact must be constantly borne in mind. The probable mechanism of the change for the better that follows its use, must be that in the small doses in which it should be given it has a stimulating action on the white blood-corpuscles.

44. **Dysentery in Young Children.**—In an orphan asylum at Düsseldorf an endemic of Flexner dysentery developed among the children, sparing 11 breast-fed infants; all but 7 of 29 bottle-fed infants gave a positive seroreaction and over a third of all the children had the dysentery. Examination of the stools proved the only reliable means to differentiate the disease. Young children seem to be specially susceptible to this type of dysentery; none died, as the children in this institution were all in remarkably good health at the outbreak of the endemic.

45. **Rachitic Deformities.**—The wonders that can be accomplished by osteoclasis plus osteotomy are shown in over twenty-two illustrations.

48. **Tuberculosis in Infants.**—Cassel states that six cases of active tuberculosis developed among the 1,282 children at the children's asylum in his charge during the last nearly eight years. The temperature chart shows the first onset and the course of the disease in three cases, the temperature findings being recorded for practically the entire life of these three infants. The first sign of anything wrong was a slight rise in temperature noticed in the sixth, eighth and eleventh week in one case; the other children already had fever when admitted. The fever was of a remittent character with abrupt rise at evening and drop in the morning. Notwithstanding the fever the children gained almost normally in weight for a time. A number of the other children have been thriving and seem to be in good health although at one time they reacted positively to the skin tuberculin test. Tuberculosis in infants thus is not necessarily always fatal.

49. **Acute Encephalitis in Children.**—Comby says that acute, non-suppurative encephalitis is quite common in children, especially in infants, and in them more common after weaning. It is rare after 7, and exceptional after 10. As a rule it follows some infectious disease or process, and the first sign is usually a convulsion. The treatment is that for acute meningitis and later for sclerosis of the brain which is the frequent outcome.

50. **Little's Disease.**—Concetti gives forty illustrations as he describes the various forms in which Little's disease may manifest itself. His work is based on eighty-four cases with necropsy in seven, and all the data confirm his assumption that the trouble is essentially the arrest or partial loss of the normal relations between the brain and the spinal cord, that is, the primary or the cortex-medullary neurons are unable to develop properly or to do their function normally. The result of this may be a number of widely differing syndromes, as he enumerates in detail. As the shorter neurons complete their development first, they may functionate normally while the longer neurons, those governing the legs for instance, show still defective functioning.

52. **Course of Tuberculosis in Children.**—Czerny declares that his many years of observation of the course of tuberculosis followed throughout the child's life has demonstrated beyond question that the condition of the nervous system is a decisive factor in the outcome of the disease; in children with an excitable nervous system the disease runs a more rapid and malignant course. Children with a sound, not easily excited nervous system do much better. The food has far less to do with the outcome. The nervously excitable children have a very unstable circulation, that is, distribution of the blood-supply. It is much livelier than in the more phlegmatic, and this is what keeps constantly whipping up the tuberculosis.

The excitable nervous system is born with the child, but it can be rendered more or less irritable by the way the child is being brought up, and this is a very important argument in favor of the tranquil environment of a sanatorium for children. Conditions in the home may be made to approximate this, but they seldom do. The open air, moving air, he says, is the most important factor in the cure; sunlight is a minor factor, and he has never witnessed improvement under tuberculin that could not be paralleled or surpassed in other cases without the tuberculin. He has noticed that the course of tuberculosis in children is aggravated and new foci developed when the children took a course of drinking mineral waters. Meat and vegetables twice a day, very little milk, and cod liver oil to supply fat are the main reliance in diet, striving to keep down the intake of fluids and consequently not trying to make the children increase in weight Another point to which he pays special attention is to prevent the development of a fistula, the most rebellious foci are generally those with an existing fistula Puncture in time to prevent a fistula is extremely important

72 **Training the Muscles as Prophylaxis of Tuberculosis**—Roeder has long advocated and carried out long hiking trips for boys and girls as an important aid in the physical development of the young His experience in this line has convinced him that the muscular effort involved is the main beneficial factor, the other factors are subsidiary The corollary follows that it is possible to obtain good results with systematic muscular exercises at home or in school By training the muscles of respiration it is possible to develop conditions in the lungs which render them refractory to tuberculosis He has organized a society which plans and provides for these hiking trips for boys and girls between 11 and 14, and he has watched the influence on their development of these systematic *Jugendwanderungen* The results have far surpassed all expectations; the trips each time started a new era of growth and development in the children in their several days of life in the open air with exercise and good food He extols them as a method of biologic prophylaxis against tuberculosis during the second period of growth, when the young are most inclined to develop tuberculosis

73 **Feeble-Minded Children**—Schlesinger devotes 130 pages to his study of the physical and mental development of backward children during the school age and the provisions which they require then and afterward He gives 100 case histories and sixty five illustrations of the children, and urges the necessity for special colonies technical schools and other measures to reduce to the utmost the handicaps under which these young people suffer

74 **Sterile Raw Milk**—Schlossmann gives an illustrated description of an apparatus which sprays the milk under pressure heating it momentarily and then cooling it rapidly Milk thus treated, he states, is sterile while it retains all the properties of raw milk

81 **Dispensary Tuberculin Treatment of Children.**—Wolff reports fourteen cases of children with tuberculous lymph nodes or other focus given a systematic course of tuberculin treatment at the policlinic The results were good, but he thinks that about as good results could have been realized without the tuberculin It certainly did no harm under his cautious dosage

82 **Mistaken Diagnosis of Poliomyelitis**—Zappert reports a case of mild and completely cured poliomyelitis in a child of 3, there had been merely a few days of what was supposed at the time to be a febrile influenza After subsidence of the fever, the family noticed that the child refused to get up and at first screamed if its legs were handled The left knee jerk was attenuated and this leg dragged a little after the child got up, but normal conditions in every respect were soon restored The retrospective diagnosis was unmistakable In three other cases the disease had been mistaken for diphtheria, and antitoxin injected. The primary paresis of the muscles of respiration may be taken for diphtheric croup, and the paralysis of poliomyelitis which develops with a sore throat may be taken for postdiphtheric neuritis He warns further that poliomyelitis may be accompanied by an eruption with desquamation suggesting scarlet fever, but differing in several points from the latter as careful investigation will reveal

In another case acute otitis and beginning pneumonia had been diagnosed, but the extent of the râles caused some hesitance The extreme dyspnea rendered the prognosis grave, and the physician was surprised to find two days later that the fever had dropped and the dyspnea improved, while the reflexes were found impaired and some paresis of the legs was noticed The assumption then of poliomyelitis was justified by the subsidence of all symptoms except that slight paresis of one leg persisted for a time The ears proved to have nothing the matter with them The patient was a boy of over 3 Wolff thinks that this case throws light on many cases of sudden fatal bronchitis in infants; instead of bronchitis, the trouble in reality was poliomyelitis The reflexes should be tested as a routine measure in case of suspected pneumonia or bronchitis in children In another case acute articular rheumatism was mistaken for poliomyelitis, this blunder prevented the routine treatment for the polyarthritis

Archiv fur Verdauungs-Krankheiten, Berlin

XIX No 6, pp 663 832

83 *Quantitative Test of Pancreas Functioning I Matko
84 Action of Certain Drugs on Uric Acid Metabolism (Vergleichende Untersuchungen uber die Einwirkung des Phenylcinchoninsäureathylesters und der Salicylsäure auf den Harnsäurestoffwechsel) G Pietrulla
85 *Duodenal Tube Autodrainage of Stomach and Duodenum for Diagnostic Purposes S Bondi
86 Non Operative Dilatation of the Pylorus (Weitere Erfahrungen mit der Streckung des Pylorus) M Einhorn (N Y)
87 Spasmodic Closure of Gastro Enterostomy Opening (Die Misserfolge der Gastroenteroanastomie bei Pylorusstenose infolge spastischen Verschlusses der Magenfistel) W Zweig
88 *Pheno tetrachlorphthalein T
Rowntree J H Hurwitz
prüfung der Leber unter
t ls Phenoltetrachlorphthalein und Lipasebestimmung) G H Whipple
89 Case of Hour Glass Stomach, Gastric Ulcer and Perigastritis I W Hopmann

83 **Test of Pancreas Functioning.**—Matko states that the pancreas may secrete too much or too little pancreatic juice, and that the test described will give exact information as to which if either of these conditions prevails, and it permits quantitative estimation of conditions In the morning the patient takes fasting a chop weighing 130 or 150 gm without bone or fat and a capsule containing 0 3 gm carmin Two hours later he is given 15 gm Carlsbad salts dissolved in 200 c c water and 200 c c additional water A similar dose is given the evening before, half an hour after an exclusively fluid supper The proportion of pancreatic ferment in the stool varies at different hours, so he has all the portions of stool voided during the day set aside in a cool place All the carmin tinted portions are finally poured together, measured and filtered The first few cubic centimeters are thrown away as too turbid and the rest of the clear filtrate is tested for the presence of trypsin by its power to digest casein in a set of graduated test tubes (Orlowski Gross) The findings are always calculated by the total amount of stool, not by the proportion in the test tubes alone Investigation of the antitrypsin property of the blood serum revealed a remarkable parallel behavior

85 **Automatic Drainage of Stomach and Duodenum**—Bondi writes from von Noorden's clinic to describe a method of examining conditions in regard to the functioning of the stomach and duodenum which seems to be free from several of the drawbacks of other methods The patient swallows a duodenal tube with perforated olive tip The swallowing proceeds more easily if the patient sucks with his lips as the tube passes downward Then the patient reclines on his right side, the end of the tube hanging free over the edge of the bed With normal persons, fluid soon begins to drip from the tube The flow of fluid is not hastened by aspiration but it is left to flow automatically, and by this means exceptionally instructive findings are obtained

The method has been applied 200 times in all, to 153 persons, and it has thrown light on normal and morbid conditions in the stomach, duodenum and connected glands The findings are peculiarly instructive in cases of atony of the stomach and hypersecretion By examining the different portions of the fluid at different intervals, the condition in regard to the different digestive ferments could be traced with extreme precision The variations in the bile tint of the alkaline secretions at different times revealed an occasional nervous inhibition of the flow of bile, a phenomenon probably important in the pathogenesis of gall stone colic The method also discloses whether the bile duct is completely or only partially obstructed Blood was found in the duodenal content not only with duodenal ulcer, but in certain other conditions The bile could be tested for urobilin; it showed abnormally high proportions in certain affections of the blood producing organs Another instructive finding was the discovery of pus cells in the duodenal content as a sign of gall-bladder disease Numerous bile casts were found in the sediment in a case of severe liver disease A number of typical cases are related recording the findings with this continuous automatic drainage of the stomach and duodenum in various morbid conditions

88 See abstracts 17 19 in The Journal, Dec 13, 1913, p 2190

Beitrage zur klinischen Chirurgie, Tubingen

November, LXXXVII, No 3, pp 539 731

90 Promotion by Posture of Absorption in Peritoneum and Pleura (Peritoneale und pleurale Resorption in ihren Beziehungen zu der Lagerungsbehandlung) W E Dandy and L G Rowntree (Baltimore)
91 Traumatic Injury of the Foot (Traumatische Affektion des Os lunatum und naviculare carpi) E W Baum
92 Case of Retroperitoneal Ganglioneuroma L Rapp
93 Rectal Cancer, 179 Cases J Oehler
94 Acute Appendicitis, 560 Operative Cases G O Hagmaier
95 Fracture of the Upper End of the Radius (Frakturen des Capitulum und Collum radii) W Stoecklin
96 Congenital Coxa Vara E Schwarz
97 **Separation of the Epiphysis of the Femur in Children* (Zur Frage der spontanen Epiphysenlosung—intracapsularen Schenkelhalsfraktur?—im Kindesalter) E Schwarz
98 Acute Necrosis of the Pancreas G Ricker

97 **Spontaneous Separation of the Epiphysis**—Schwarz gives eight roentgenograms and several case histories to sustain his view that the epiphysis at the upper end of the femur does not become separated suddenly under the influence of a trauma Conditions are more complex here than at similar points elsewhere Even a very slight trauma may suffice to loosen the epiphysis but this is not evident on roentgenoscopy as the tough capsule prevents dislocation Gradually the separation becomes complete as the child uses the limb The trauma generally is so slight that it is unnoticed at the time or is soon forgotten Only later and gradually is attention attracted to a slight limp Then coxa vara develops, as the first stage, the final stage being the complete separation of the head from the neck The neck may gradually waste away from lack of adequate nourishment Beside this typical affection, there may be spontaneous fracture of the neck of the femur in that a wedge shaped piece is separated from the lower half of the neck but still clings firmly to the epiphysis The explanation of this is a primary congenital coxa vara

Berliner klinische Wochenschrift

December 15, L, No 50, pp 2313 2360

99 Appendicitis Fifty Years Ago and To day E Sonnenburg
100 *Successful Removal of Tumor in the Optic Thalamus and One in the Corpora Quadrigemina (Geschwulsten der Sehhugel und Vierhugelgegend) H Oppenheim and F Krause
101 Present Status of Treatment of Glaucoma H Sattler Commenced in No 49
102 Germ of Variola V (Ueber den Pockenerreger) W Fornet
103 *Contact Infection in the Spread of Cholera Eckert
104 Heterogenetic Antibodies E Friedberger and F Schiff
105 Chemical Composition and Physiologic Action A Langgaard
106 *Vaccine Therapy of Cancer (Der gegenwartige Stand der Behandlung der bosartigen Geschwulste) F Blumenthal

100 **Recent Conquests in Brain Surgery.**—The two patients whose cases are described and illustrated were presented at a recent meeting of the Berlin Medical Society One, a woman of 24, had had a round celled sarcoma, measuring 5 5x6x8 cm, removed from the region of the optic thalamus The other, a boy of 10, had had a small fibrosarcoma removed from the region of the corpora quadrigemina with complete success, all the symptoms of pressure on the brain subsiding The focal symptoms are still improving, day by day The one symptom that persists most tenaciously is the abolition of the pupil reflexes There is also tachycardia The technic followed in this case permits ample access to the pineal gland as well

103 **Cholera.**—Eckert concludes from his experience in the Balkan campaign that a clean and perfectly drained city need have no fear of cholera Notwithstanding the constant importation of fresh cases of cholera into Sofia which is drained by mountain streams, no epidemic resulted Only twenty four cases out of 160 in which the details were known originated in the city and twelve of these were in soldiers or those who tended them One month there were 600 cases of cholera in the hospital but there was no instance of hospital infection known, although other patients frequently came into contact with the cholera cases Flies did not seem to carry the infection, it seems evident that a large number of germs are necessary to transmit cholera.

106 **Vaccine Therapy of Cancer.**—Blumenthal concludes from his review of what has been attempted and accomplished in this line, that the results justify further work with vaccine therapy of cancer He advises when the cancer is inaccessible or the seat of severe mixed infection to make the extract for the vaccine from an analogous accessible tumor on another person Success depends on the practical identity of both growths

Correspondenz-Blatt fur Schweizer Aerzte, Basel

December 6 XLIII, No 49, pp 1601 1656

107 *Appendicitis in Switzerland C Roux and F de Quervain

December 13, No 50, pp 1657 1688

108 *Successful Operative Treatment of Embolism (Erfolgreich operierter Fall von Embolie der Arteria femoralis und der *Arteria profunda femoris*) *H Matti*

107 **Appendicitis in Switzerland.**—The experiences here related were presented at the inaugural meeting of the recently organized Swiss Surgical Association, which opened with a membership of 112 In his presidential address, T. Kocher of Berne pleaded for the cooperation of the surgeon with the internist in the borderland affections, without waiting until operative treatment becomes imperative The internist should call the surgeon in to consult with him early in the case, so that the progress, up or down, could be interpreted by specialist skill in every direction

Roux' discussion of appendicitis was based on his own experience and de Quervain's on a collective investigation throughout Switzerland All the cases of appendicitis given operative treatment in Swiss hospitals during the last five years are classified as the operation was done the first, second, third or fourth day or later A colored chart illustrates the data and also the findings in the appendix the first or second day, and the date when the patients left the hospital, compared with the day at which the operation was done In some previous collective statistics (1895) only 6 5 per cent of the 7 213 patients were given operative treatment, while the later statistics show 83 3 per cent operated on among 6 116 patients and in Roux' service 91 5 per cent of 404 cases All the speakers reiterated that the fate of the patient lies in the hands of the physician who sees him the first day

108 **Operative Treatment of Embolism**—The right femoral artery suddenly became obstructed with an embolus, as was rendered evident by the sudden intense pain in the right foot and leg and shutting off of the circulation below The patient was a man of 70 with failing compensation of a heart defect A pulse could be felt in the artery down to 3 cm above Poupart's ligament, and Matti decided to cut down on the artery rather than to amputate He removed five embolic plugs, but as the blood even then did not flow from the peripheral artery, he stroked it upward and thus worked out a fresh clot, 15 cm long Over thirteen hours had elapsed before the operation, and yet the circulation was restored at once and completely except in two toes, which became mummified later The advanced arteriosclerosis was probably a factor in this There were signs later of thrombosis in the artery, and necropsy showed that the thrombus was adherent to the walls beyond as well as at the site of the suture It caused no appreciable disturbance except reduction of sensibility in the lower half of the leg The patient died two months after of his heart disease plus pneumonia In conclusion Matti compares his case with ten other recorded operations of the kind on the femoral artery, remarking that his case is the third successful one, and is remarkable for the age of the patient, the others were men of 31 and 43 He regards Murphy's case as a dubious success (The Journal, 1909 lii, 1661)

Deutsche medizinische Wochenschrift, Berlin

Dec 11, XXXIX, No. 50, pp. 2441-2488. Koch Memorial Number

109 *Tuberculin Dispensary League (Welche Massnahmen sind zur weiteren Eindämmung der Tuberkulose als Volkskrankheit erforderlich?) F. Loeffler.
110 Reminiscence of Koch's Early Research on Tuberculosis (Erinnerungen aus der Zeit der ätiologischen Tuberkuloseforschung Robert Kochs) P. Ehrlich
111 Robert Koch and the Problem of Specificity W. Kolle.
112 *Time and Local Factors Predisposing to Infectious Diseases. H. Kossel
113 *Milk as Source of Typhoid. (Typhusverbreitung durch Milch und ihre Verhütung nach den in Schleswig-Holstein gemachten Erfahrungen.) B Fischer
114 *Systematic Prophylaxis of Typhoid. (Der Typhus in Oberstein unter dem Einfluss der systematischen Typhusbekämpfung) O. Lentz
115 Antimony in Spirochete and Trypanosome Diseases. P. Uhlenhuth and G Hügel.
116 Pulmonary Tuberculosis and Hydrotherapy. L Brieger.
117 *Biology of Tubercle Bacilli G. Lockemann.
118 *Serodiagnosis of Tuberculosis. (Antigengehalt Kulturlösungen von Tuberkelbazillen) B Möllers
119 Differentiation of Human and Bovine Tuberculosis by Means of Theobald Smith's Reaction Curve. J. Wankel.
120 Failure of Attempts to Induce Local Immunity of the Skin. (Ueber Versuche, eine lokale Resistenz der Haut gegen Tuberkuloseinfektion zu erzeugen.) O. Steiner and S. Abelin.
121 Tuberculin. W. G. Ruppel.
122 Growth of Mouse Cancer Checked by Allyl Derivatives H. Koenigsfeld and C. Prausnitz.

109. **Outlook for the Campaign against Tuberculosis.**—Loeffler thinks that a new era of progress will dawn in the prophylaxis and treatment of tuberculosis when Wilkinson's method is more widely adopted. He has been investigating at London Wilkinson's tuberculin dispensary method, and witnessed for himself the outcome after five years—almost 100 per cent. of cures in the first stage of tuberculosis and 60 or 70 per cent. of cures in the second stage. The treatment is begun with minute doses of bovine tuberculin, gradually increasing the doses and the strength of the tuberculin and then changing to Koch's "old" tuberculin, continuing with this in increasing doses to a maximum of 0.01 or 0.02 c.c. Wilkinson has succeeded in organizing a "Tuberculin Dispensary League" so that means to equip and maintain numerous dispensaries are available. His principle is "early diagnosis and treatment, before lung tissue has been destroyed and before the wage-earning capacity has been reduced." The tuberculin treatment does not interfere with the patient's occupation if the dispensary is convenient of access, and Loeffler urges the organization in Germany of a similar chain of dispensaries as the next great advance in the campaign against tuberculosis.

112. **Local Factors in Epidemics.**—Kossel expatiates on the way in which laboratory research has solved problems which epidemiology alone could never have solved. It has shown that the old conception of seasons and localities as breeders of certain diseases is readily explained by the life-habits of certain insects and rodents and by the movement of the population, traffic, transportation, etc. He denounces Emmerich's theory that certain soils have a favoring and others a destructive action on disease germs, especially the cholera vibrio, saying that the ground is covered up so much now with pavements and buildings that the "soil" would have little chance to act on the germs in many places.

113. **Milk as Source of Typhoid.**—Fischer reviews the lessons learned from a number of epidemics of typhoid in northern Germany of recent years. The importance of milk as a carrier of the disease was amply demonstrated in these experiences and the promptly effectual means of stamping out the epidemics by seeking out and removing from the handlers of the milk all persons who were found to be chronic carriers.

114. **Typhoid Bacilli Carriers.**—Lentz states that in the Oberstein district typhoid for years had been endemic when, in 1903, the authorities took up the matter and discovered a dangerous chronic carrier. The next year six more were found, and two in 1907 and one in 1908. These carriers were mostly women and mothers of large families They were instructed as to the dangers from them to others and were repeatedly rewarned of the necessity for extreme cleanliness It was impressed on them that after defecation and again before touching any article of food, even buttering a slice of bread, they must wash their hands systematically and thoroughly with soap and water and, before laundering, their under linen and bed linen must be put to soak for twenty-four hours in strong soapy water. Attempts to enforce more vigorous measures met with some resistance, but these simple precautions and reiterated warnings have proved effectual, only one case of typhoid being known in the district during 1912 and two this year

117 and 118 **Biology of Tubercle Bacilli.**—Lockemann and Möllers state that the weight and antigen content of tubercle bacilli cultures increase up to the sixth week and then both show a decline Lockemann says that weighing the cultures now and then gives oversight as to the course of the growth.

Deutsche Zeitschrift für Chirurgie, Leipsic

November, CXXV, Nos 5-6, pp 413-617

123 Heliotherapy of Tuberculosis of the Foot W Leuba
124 Fascia as Substitute for Tendons and Ligaments (Freie Transplantation der Fascia lata als Ersatz für Sehnen und Bänder) K H Giertz
125 Castration Does Not Modify Susceptibility to and Course of Tuberculosis T Yatsushiro
126 Biondi's Technic for Exclusion of the Pylorus S Porta
127 Circumscribed Local Hyaline Degeneration in Kidney Responsible for Hematuria (Zur Frage der einseitigen Hämaturie Erkrankung der Kapillaren des Markteils) E W Baum
128 Acute Hemorrhagic Pancreatitis J Bungart
129 Prophylaxis of Thrombosis (Experimentelle Untersuchungen über die Thrombosenfrage, nebst Angabe einer einfachen Methode zur Koagulationsbestimmung des Blutes) T Yatsushiro.
130 Circular Resection of the Trachea G Alagna.

Medizinische Klinik, Berlin

December 14, IX, No 50, pp 2053-2098

131 *Radiotherapy in Gynecology W Stoeckel
132 *Diagnosis of Miliary Carcinosis of the Lungs R Schmidt
133 Digitalis in Therapeutics R. Gottlieb
134 *Amenorrhea during Lactation and its Influence on Conception Thiemich.
135 Treatment of Malignant Syphilis (Die Behandlung der malignen Syphilis) G Morawetz
136 Inguinal Hernia (Die Radikaloperation der Leistenhernie) Drecsmann
137 Improved Technic for the Wassermann Reaction (Verwendung grösserer Serumdosen zur Verfeinerung der Wassermannschen Reaktion) R. Ledermann
138 Pathology of Tuberculosis. C Hart
139 *Blood-Pressure and Blood Picture. (Blutdruck und Blutbild) E Münzer. Commenced in No 49

131. **Radiotherapy in Gynecology.**—Stoeckel says that although it is too early yet to form a decisive opinion on the value of Roentgen-ray and radium treatment of pelvic diseases in women, yet the results to date have been better than ever realized before under other measures. The radio-active substances have been applied hitherto by the technic borrowed from the Roentgen experience, but time may show that they require a special technic for them. Systematic biologic research is urgently needed to determine the best filtering technic, the dosage and the optimal distance from the focus

Roentgenotherapy is equivalent to operative castration For cancer this is not enough, and since it has been found that the gamma rays of the radio-active substances surpass the Roentgen rays in penetrating power, these are being used for cancer more and more, and even the most skeptical must admit that nothing has ever yet been known with such an enormous primary destructive action on cancer cells. The extent of this destructive action is the problem now; the microscopic findings in the adjoining tissues have been surprisingly favorable in some cases but ominous in others. We do not know what is occurring in the regional lymph-nodes and possibly already infected lymphatics. For gynecologic purposes at least 0.1 gm. of the radium salt or mesothorium are necessary, and this costs over $7,500. The sudden demand for mesothorium far outran the supply, and the manufacturers' trust combined and cornered the market, so that a previously unheard of situation has developed, rendering further therapeutic research in this line a matter of financial resources. Never before has Science had to bargain and beseech in the market place for a chance to try out her new therapeutic discoveries.

132. **Carcinosis of the Lungs.**—Schmidt reports a case in which he made the correct diagnosis during life of miliary carcinosis of the lungs The patient was a woman of 36 who began to cough and have difficulty in breathing, with other

symptoms suggesting miliary tuberculosis but the normal heart and lung findings, afebrile course and absence of the diazo reaction excluded this. The intense dyspnea and tachypnea and the discovery of enlarged lymph-nodes in the left supraclavicular region confirmed the presumptive diagnosis of miliary carcinosis and necropsy two months after the first symptoms corroborated this. In a second case the carcinosis was assumed during life and post mortem to be miliary tuberculosis, until the microscope revealed the carcinosis. In both cases a minute cancer was found in the stomach, and Schmidt thinks this is generally the rule: minute primary cancer plus great tendency to metastasis; large primary cancer, little metastasis. He suggests that possibly in large cancers toxic substances are formed in such profusion that antibodies are generated in response, which practically immunize the rest of the body. Miliary carcinosis of the lungs seems to affect mostly young persons; the nine other cases he cites from the literature were all in persons from 23 to 36 with the exception of one aged 74.

134. **Amenorrhea During Lactation.**—Thiemich has had conditions investigated in 1,200 cases and has found it a universal rule that as long as the women suckled their infants and gave them no other food, there was no menstruation and no new conception. Large families, with ten or twelve children, he has never encountered except among wage-earners and only when the infants were brought up on artificial food after the first week or two. The mothers, not nursing the child, soon menstruated again and a new pregnancy speedily followed. Another fact brought out by his research is that in these large families only 50 per cent. of the children survive the first year. The mothers thus unduly prolific were found invariably much debilitated and their babies were puny. Everything, therefore, points to the vital importance of breast-feeding, if for nothing else to protect the mother against a new pregnancy until she is physiologically ready for it.

139. **The Blood-Pressure and the Composition of the Blood.**—The data presented by Münzer show that many cases of anemia are distinguished by lymphocytosis and low blood-pressure for which a constitutional inferiority of the glands with an internal secretion is unquestionably responsible—the thymic-lymphatic status. Persons with lymphocytosis and low blood-pressure stand general anesthesia badly, while persons with high blood-pressure usually stand it well. This is easily understood by the connection between the blood-pressure and the ductless glands, especially the chromaffine system. The chromaffine substance is used up during general anesthesia, and consequently persons with a constitutionally inferior chromaffine system are liable to suffer most from it. The discovery of lymphocytosis and a low blood-pressure thus warns of the need of caution before attempting an operation under general anesthesia. Persons with high blood-pressure and normal or subnormal numbers of lymphocytes in the blood have a sound and vigorous chromaffine system and are thus able to take the anesthetic without harm, other things being equal. He adds that the various diatheses are probably merely the manifestations of the behavior of the ductless glands.

Münchener medizinische Wochenschrift

December 16, LX, No. 50, pp. 2769-2824

140 *To Correct Crippled Joints. (Ueber operative Nearthrosis.) *Helferich.*
141 Points in Technic for Serodiagnosis. (Weiterer Beitrag zur Frage nach dem Einfluss des Blutgehaltes der Substrate auf das Ergebnis der Prüfung auf spezifisch eingestellte Abwehrfermente mittels des [illegible] E. Abderhalden.
142 Neosalvarsan in Tertian [illegible]
143 *Diagnosis of Syphilis [illegible] konstitutionelle Syphilis vom Ohr aus [illegible] O. Beck.
144 Nature and Distribution of Vasoconstrictor and Oxytocic Substances in the Body. W. Lindemann and B. Aschner.
145 Serodiagnosis of Cancer. C. Fried.
146 Biology of Spirochetes. (Methoden zum Nachweis von Sprossungsvorgängen an Spirochäten.) Meirowsky.
147 Camphor in Treatment of Pneumonia. M. Hötzel.
148 The Diagnosis of Pregnancy. (Die Hohe Schule für Aerzte und Kranke. XVI.) M. Nassauer.

140. **Operations to Restore Joint Functioning.**—Helferich has compiled about 300 cases of operations on joints with interposition of soft parts, not including twenty on the jaws. The results in this latter group have been constantly excellent. The method was applied to the elbow in 120 cases. Bier interposes a flap from the triceps or its tendon plus adjacent connective tissue; Lange used in two cases the brachial muscle with excellent outcome. Hoffa prefers a pedunculated flap of fat, while others take a loose flap. Putti has reported most excellent results in twelve cases with an interposed loose flap of fascia; the joint excursions run up to 120 or even 130 degrees in eleven old traumatic cases. All extol the advantages of the interposed flap. Helferich knows of only a very few cases in which the method has been applied to the shoulder, ankle, wrist, fingers or toes, but the results were good in nearly all.

The hip-joint has shown such excellent results from the method in the forty-nine cases in which it has been applied that one is amply justified in attacking a crippled hip-joint. Vulpius says that he has obtained his best results with the method in cases of ankylosis of the hip-joint, and points with pride to a case of total ankylosis of both hip-joints which he remedied completely. The patient can now, a year later, use the joint freely and flex the thigh at a right angle.

The knee is less amenable, and failures are comparatively frequent—though growing less so—but they are far outbalanced by such a case as Payr has described in which a cavalry officer was restored to active service when he was being compelled to resign on account of a stiff knee. Helferich has found records of seventy-five such operations on the knee. When the crippling is due merely to the patella growing to the femur, interposition of a soft-part flap naturally will remedy the condition. This was the first indication for which the method was devised, but it has been done as a separate operation only in eight cases to date. In conclusion Helferich protests against Murphy's remark that the technic for the nearthrosis operations requires a master's hand. Any trained surgeon can do it, and especially the younger surgeons will have gratifying success with it.

143. **Ear Symptom of Syphilis.**—This communication from Urbantschitsch's clinic at Vienna states that constitutional syphilis should be suspected, even when there are no other signs of it, when the ear is apparently otherwise normal and yet the Rinné test proves positive. He theorizes to explain the mechanism of the response. The familiar test is made by holding a vibrating tuning-fork opposite the opening into the ear and then transferring it to the mastoid process. Under normal conditions air conduction of the sound predominates over bone conduction; with morbid conditions in the nervous apparatus of the ear, air conduction predominates, but both are much briefer than in health. Beck applied the test to numbers of syphilitics whose ears and hearing were apparently entirely normal, and he found in 80 per cent. that bone conduction was materially shortened. This finding is characteristic also of conditions accompanied by increased intracranial pressure, and he thinks that this occurs probably also in constitutional syphilis, even before the syphilis induces symptoms.

Wiener klinische Wochenschrift, Vienna

December 4, XXVI, No. 49, pp. 2021-2064

149 Acute Leukemia and Its Treatment. (Ueber die Reaktion der leukopoetischen Organe von Lymphatikern auf Infekte.) B. O. Pribram and B. Stein.
150 Hexamethylenamin in Dermatology. O. Sachs.
151 *Fever as Only Symptom of Latent Syphilis.* H. Kraus.
152 Serodiagnosis of Liver Disease. R. Hertz and H. Brokman.
153 Metabolic Findings after Treatment of Leukemia with Benzol, (Stoffwechseluntersuchungen bei einer mit Benzol behandelten chronischen, leukämischen Myelose.) B. Dörl.
154 Superheated Air in Treatment after Operations. F. Orthner.
155 The Mineral Springs of America and their Therapeutic Utilization. (Amerikanische Balneologie.) F. v. Oefele (New York).

December 11, No. 50, pp. 2065-2100

156 Opening the Lacrimal Sac through the Nose. (*Die nasale* Eröffnung des Tränensackes.) O. Mayer.
157 *Atropin in Treatment of Dysmenorrhea. J. Novak.
158 *The Danger of Combining Anesthetics. (Postoperative Morphiumvergiftung.) H. Hinterstoisser.
159 *Later Report on Cancers Treated with Radium. Sparmann.
160 Abortive Mercurial Treatment of Syphilis. G. Scherber.
161 Neosalvarsan in Syphilis. (Ueber konzentrierte Neosalvarsaninjektionen.) W. Kerl.
162 *Cholera Epidemic in Servia, 1913. R. Strisower.

December 18, No. 51, pp. 2101-2120

163 *Influence of Alcohol on Rabbit Liver and Testicles. J. Kyrle and K. J. Schopper.
164 *Radiotherapy of Trachoma. (Zur Therapie des Trachoms mit ultravioletten Licht.) F. Rössler.
165 *Roentgen Therapy of Tubercular Lymph-Node. J. Philipowicz.
166 *Chemical Bases for Treatment of Cancer. E. Freund.

157. **Atropin in Treatment of Dysmenorrhea.**—Novak found a history of painful menstruation in nearly every one of his cases of puerperal bradycardia and arhythmia. This suggested that the dysmenorrhea was traceable to the same cause as the other, and that it might be influenced by atropin, which has such prompt action on bradycardia due to abnormal irritability of the sympathetic nervous system. In small doses atropin has a stimulating and in large doses a paralyzing action on the sympathetic nervous system, and the few instances of failure to relieve the dysmenorrhea were probably due to incorrect dosage. The treatment was applied in large numbers of cases but only thirty-eight were followed for any length of time; thirty of the women were materially benefited by the atropin. The menstruation occurred without pain or so little that it was negligible. The predisposition to dysmenorrhea is either congenital or acquired, but the pains usually can be classed as (1) menstrual colic, possibly a kind of vascular crisis; (2) pains suggesting labor, due to clots or other abnormal contents in the uterus, or accumulation of blood with obstruction to evacuation, and (3) the pain from hyperemia—local congestion. Atropin arrests the pains by paralyzing the nerve terminals belonging to the vegetative nervous system. Novak's patients stated that the menstrual discharge increased in amount after taking the atropin, possibly from relaxing the spasmodic contraction of the vessels or of the uterus or both. Papaverin also has a paralyzing action on the smooth muscles, and may prove useful in combating dysmenorrhea. He expresses surprise that atropin has not been used more in gynecology as it seems so promising in this field, to ward off impending abortion, to relax painful stricture of the bladder sphincter or anus, or to keep the genital organs still and prevent ascending infection in case of local inflammatory processes. On account of danger of hemorrhage from atony of the uterus, atropin is necessarily contra-indicated when abortion or delivery is once under way and there is considerable uterine hemorrhage.

158. **Dangers of Combining Narcotics.**—Hinterstoisser states that considerable use is made in his service of the method of combining anesthetics and sedatives as a preliminary to and during operations, but he was recently startled by finding that one patient, a woman of 41, did not rouse after appendicectomy but lay in stupor for three days, with no control over bladder and rectum. Consciousness gradually returned the fourth day. He ascribes this prolonged stupor to the cumulative action of the drugs used, narcophin, scopolamin, ether, chloroform and morphin. Symptoms of severe intoxication followed the dose of morphin, cyanosis, respiration-rate only six or seven, then one or two to the minute, pulse slow but strong, the eye reflexes suspended. Artificial respiration was required for three hours. Then the paralysis of the respiration center was overcome by venesection and injection of Ringer's solution (withdrawing 300 c.c. blood and injecting a liter of the Ringer fluid). The woman began to breathe at once about sixteen times a minute, and the danger was over, although the deep somnolency continued for three more days. Brauer has recently reported a case of morphin poisoning in which no benefit was realized from venesection and saline infusion, and the patient was saved only by an emergency tracheotomy with oxygen supplied directly to the bronchi for several hours. The pulmotor failed to help in this case. Brauer ascribes the fatality in such cases not to the morphin but to the conditions which permit fatal intoxication of the respiration center by the carbon dioxid retained in excessive amounts owing to the deficient respiration for which the morphin is responsible. All the arguments thus sustain and explain the efficacy of venesection plus infusion of Ringer's fluid or isotonic salt solution.

162. **Cholera in Servia.**—Strisower reviews the experiences with 650 cases of cholera last summer, and bacteriologic examination of 2,000 persons. The mortality was from 41.4 to 42.9 per cent. irrespective of the treatment, but the 393 patients treated with potassium permanganate were all free from vibriones at the last examination, with four exceptions, while the proportion of carriers left after iodin, opium and quinin treatment was respectively 15, 75 and 10 per cent. One physician stated that he had had good results with yoghurt in convalescence from cholera. One epidemic broke out when a cavalry troop was quartered on a field where large numbers of soldiers had died of cholera and been buried several weeks before.

163. **Experimental Alcoholic Cirrhosis of the Liver.**—In the research reported 31 rabbits were given alcohol in various ways, injected intravenously or subcutaneously or poured through a tube into the stomach. The amount thus given the animals with an exclusively vegetable diet corresponded approximately to the daily ingestion by a man weighing 176 pounds of a quarter of a liter of 50 per cent. whisky, *Schnaps*. The longest period before the animal was killed was thirteen weeks. Among the 17 given the alcohol by the stomach, evidences of ulceration were found in 10. Signs of pronounced cirrhosis of the liver were found in all but 9 of the animals, and the testicles showed extreme atrophy. The histologic changes in the testicles resembled in every respect those found with chronic alcoholism, as reported by Simmonds, Kyrle, Weichselbaum and others. The fact of a predisposition to injury from alcohol is shown by the negative findings in 9 of the animals, although the conditions of the research had been identical for all.

164. **Radiotherapy of Trachoma.**—Rössler has been applying the Finsen method of treatment to trachomatous eyes, incited thereto by Groenholm's report of his unusual success with this treatment in trachoma. Rössler states that seventeen of the twenty-one thus "finsenized" were cured or materially improved, and in only four of the cases did the affection continue a progressive course. The cases of mild uncomplicated trachoma were the ones most benefited, and Rössler never witnessed such prompt and permanent cures under any other measures.

165. **Roentgen Treatment of Tuberculous Lymph-Nodes.**—Philipowicz says that his experience in twenty-five cases shows that the Roentgen ray is the most effectual of all measures in treatment of tuberculous lymphomas. The lymph-nodes subside in size under the exposures, he reiterates, the fistulas heal with a flexible cicatrix and the whole organism seems to be benefited while there are absolutely no subjective inconveniences. He gives the details of his twenty-five cases; three of the four given from 20 to 28 exposures are entirely cured and the fourth is nearly cured. All the twenty-five patients were materially improved, even those that had only a few exposures to date. The lymphomas responded alike whether they were still hard or had already softened. The sittings were for ten minutes, once in one or two weeks. No reaction on the part of the skin was ever noticed. About fifteen exposures are generally required. Danger of interfering with growth processes contra indicates Roentgen treatment under the age of 10, but this seems to be the only contra-indication.

166. **Chemical Bases for Treatment of Cancer.**—Until recently, Freund says, the why, whence and whither of cancer have been a sealed book to us, but experimental chemistry has lately shown that in cancer some normal element in the cell seems to have been used up and some foreign element has taken its place. This starts the cell to malignant proliferation or provides the soil on which something else is then able to accomplish this. This change in the cell has been rendered evident by recent biologic research which has shown among other things that the extract of tissues from certain points known to be a favorite developing point for cancer—such as gastric ulcer tissue—does not possess the normal tissue property of destroying cancer cells. This extract lacks the normal fat acids with which the normal cell protects itself against cancer. More than this, the intestinal content of a person with cancer—even when the cancer is not in the alimentary canal—does not contain the normal fat acids, but generates abnormal fat acids which induce in turn abnormal break-down

of albumin The abnormal products which result from this, act like a poison on the cells which are already suffering from the lack of the normal lipoids

The problem of cancer is thus transferred to the simple processes of tissue break down in the intestines, and these are to a certain extent under our control The task now before us is to study the conditions which favor the development of these baleful substances in the intestine content and means to prevent their production The effect realized can be estimated by determining the changes in the cancer cell destroying property of the serum A horse was immunized by injection of puncture fluid from a patient with cancer, and its serum, which at first destroyed cancer cells only at a 1 to 5 dilution, by the end of the year had acquired a destructive property in a 1 to 300 dilution Freund has no therapeutic results to report as yet, but is confident that the results of his research represent an important advance in our knowledge of cancer It points the way to neutralize with antibodies the cancer fostering substance, and to prevent its production in the intestines The substance in question seems to be a nucleoglobulin differing from ordinary nucleoglobulin *in that it contains more carbohydrate and fat acid*

Zeitschrift fur Urologie, Berlin

December VII No 12 pp 945 1076

167 Bladder Calculi in China (Chinesische Blasensteine) E Pfister

Riforma Medica, Naples

December 6, XXIX No 49 pp 1345 1372

168 Research on the Cobra Venom Serum Test (L azione ostacolante ed attivante del veleno di cobra nelle reazioni emolitiche con sieri di neoplastici) C Rubino and C B Farmachidis
169 *The Tuberculous Soil plus Gonorrheal Arthritis (Il terreno tubercolare nelle artriti blenorragiche) L Tommasi
170 *Technic for Operative Treatment of Edema and Varices of the Legs G D Oria

December 13 No 50, pp 1373 1400

171 The Blood Changes in Exophthalmic Goiter (Le alterazioni del sangue nel morbo di Flaiani Basedow) D Salvatore

169 **Gonorrheal Arthritis** —Tommasi has noticed that when gonorrheal arthritis develops he has always been able to find evidence of a preceding tuberculous infection, generally previously unsuspected until the thorough examination at this time reveals it He gives the details of twelve cases of the kind and also of an equal number of cases in which the tuberculosis was in a florid stage when the gonorrheal arthritis developed The tuberculin reaction he states, will be found positive in cases of gonorrheal arthritis, as a rule, and both the gonorrhea and the tuberculosis require treatment The serous membranes in the joints are less adapted to defend themselves against infection than others and, especially in latent, torpid tuberculosis, the joints are a point of lessened resistance

170 **Operation on Artery Instead of Vein for Varices** —Bondi argued that if the supply of blood to the varicose veins were cut down, the veins could take care of what did reach them, and the normal balance would be restored D Oria reports two cases in which treatment was applied on these principles a segment of the superficial femoral artery being cut out between two ligatures a short distance below the point where the deep femoral leaves the artery The patients were a man of 39 and a woman of 34, and both had long suffered from varices and edema of the left leg The small operative wound rapidly healed and all disturbances gradually subsided, leaving the patient entirely free from all varices and edema in that limb and the cure has persisted for three years to date in both cases In both instances the trouble in the vein was of thrombotic origin

Brazil-Medico, Rio de Janeiro

November 15 XXVII No 43 pp 462 473

172 The Arterial Pulse and Its Physiologic Variations A Novis

November 22 No 44 pp 474 485

173 Practical Prophylaxis of Tuberculosis P Barbosa

Semana Medica, Buenos Aires

November 6, XX, No 45, pp 1061 1120

174 *Advantages of Oxygen in Treatment* of Pneumonia in Infants R D Ovidio
175 Sanitation of Brazilian Province (Los problemas higienicos de Tucuman) P J Garcia
176 Condition of the Teeth in Connection with Child s Mental Development (La pro de la creacion de clinicas dentales escolares) J B Patrone
177 Production of Artificial Amebas A Delfino

November 13, No 46, pp 1121 1176

178 Stimulating Action of Hypophysis Extract on Stomach Motor and Secretory Functioning B A Houssay
179 Diagnosis of Venereal Disease J Baillatti
180 Temperance Campaign in Venezuela A Delfino

November 20 No 47, pp 1177 1236

181 Symptomatology of the Myocardium A Viton
182 Tuberculin Treatment of Pulmonary Tuberculosis P A Guerrero
183 Abuse of Native Liquor, Mate N Lugo Viña

Archives des Sciences Biologiques, St Petersburg

XVII, No 5, pp 425 504 French Edition

184 Physiology of the Gastric Glands G P Zeliony
185 The Hemolysin of the Bacillus Subtilis—Subtilolysin M N Margoulies
186 Antitoxin Content of the Blood of Normal Horses and Its Production in the Natural Conditions of Life of these Animals S K Dzerszgowski
187 Physiology of the Nervus Terminalis in Selachians K N Krzyszkowski
188 The Ferments of the Osteomyelitis Bacillus E Glinka
189 *Guanidic Acid L Glinka*

St. Petersburger medizinische Wochenschrift

November 28, XXXVIII, No 22, pp 323 335 In German

190 Cystic Fibromyoma of the Uterus, Three Cases W Beckmann
191 The Latest Theories as to the Descent of Man (Die neuesten Forschungsergebnisse uber die Abstammung des Menschen) W Schiele

Hospitalstidende, Copenhagen

December 10 LVI No 50, pp 1479 1518

192 *Ions in Treatment of Tuberculous Nose and Throat Affection (Behandling af tuberkuløse Lidelser af øvre Luftvejes Slimhinder med Reyn s Elektrolyse) O Strandberg

192 **Ions in Treatment of Tuberculous Nose and Throat Affections** – Strandberg has been applying ions in treatment of tuberculous affections in the mucous membrane of the upper air passages using Reyn's method of inducing the production of nascent iodin in the diseased tissues by administering internally potassium iodid and then applying electrolysis to the spot The method is based on Pfannenstill's two route technic for such lesions Reyn found that 5 gm of sodium iodid seemed the best dosage for adults and that the largest proportion of iodin was found in the serum after about an hour and a quarter and hence that this is the propitious moment to apply the electrolysis The method was applied at the Finsen Institute to 217 patients with lupus In some the lupus had resisted all other treatment for years, in one case of twenty years' standing the lupus healed under the electrolysis The experiences on the whole have been exceptionally favorable, especially in the old rebellious cases It is now applied as a routine measure in all cases of lupus of the mucosa in the upper air passages

Hygiea, Stockholm

November LXXV, No 11, pp 1105 1232

193 The Oxyuris and Appendicitis G Brunhielm

Norsk Magazin for Lægevidenskaben, Christiania

December LXXIV, No 12, pp 1601 1760

194 *Albuminuria Blood Pressure, etc in Schoolchildren (Undersøkelser over albuminuri blodtryk etc hos skolebarn) J Bugge
195 Anatomic Conditions after Successful Glaucoma Operations (Anatomisk undersøkelse av operationsarrene og av de implanterte papilleoxl nationer efter vellykkede glaukomoperationer) S Holth

194 **Albuminuria and Blood Pressure in Children** —Bugge examined 1 076 school children at Christiania and when with the Heller test, albumin was found in the urine, he systematically examined the urine in the morning and during the day again keeping this up for a long time Albumin was evident in 14 9 per cent of the total 1,076 The orthostatic type was noted in 13 3 per cent of the girls and 3 5 per cent among the boys He studied the connection of lordosis with the albuminuria in 300 boys, measuring the spine Physical exercise brought on albuminuria, 21 per cent of the healthy boys *developing albuminuria after gymnastic exercises*

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ACCIDENTAL INJURIES TO THE DESCENDING PORTION OF THE DUODENUM DURING REMOVAL OF THE RIGHT KIDNEY

WILLIAM J. MAYO, M.D.
ROCHESTER, MINN.

The anatomic relations of the retroperitoneal portion of the duodenum are such that this organ may be injured during operations for the removal of the right kidney. Such injury, however, can only occur if there be infiltration about the pedicle which has caused close adhesion to the duodenum. The duodenum in its descending course overlies the pedicle of the right kidney and a considerable portion of the lower half of that organ on the inner side (Fig. 1). As this portion of the duodenum is retroperitoneal and more or less fixed in position one can readily understand how the accident might occur under such circumstances. The exact relationship of the duodenum to the right kidney depends on the mobility of the latter organ which lies somewhat lower than the left kidney and is more or less movable normally. The extent of this mobility depends on a number of factors. As shown by Harris,[1] the shape of the lower thorax, to a large extent, determines its position; a loose attachment of the ascending colon to the posterior parietes permits a wider range of motion. Under ordinary circumstances, during a right nephrectomy, the pedicle is loosened until it can be well surrounded with the fingers, clamped with forceps or tied, and as long as this method is followed the duodenum will not be injured. But in those cases in which, on account of infiltration, such a pedicle cannot be formed, it not infrequently happens that the vessels are torn with a resultant sudden gush of blood, or, after the removal of the kidney, the pedicle retracts from the forceps or ligature with sudden hemorrhage, necessitating active hemostasis. As shown by Gerster,[2] if the artery is cut first the veins may tear with consequent hemorrhage. In the effort to check this sudden hemorrhage by grasping the vessels with forceps having strong biting jaws and teeth at the end, the duodenum may be seized. As a rule, the injury to the duodenum is not manifested for several days. The injured part becomes necrotic and a duodenal fistula of a most distressing type results which will often, if not usually, cause the death of the patient.

I have known of three such injuries to the duodenum, the first many years ago when I was assisting a surgeon who was following a nephrotomy by a nephrectomy. Heavy biting forceps were left on the pedicle. On the fourth or fifth day a copious discharge began of biliary and pancreatic secretions, with food discharged almost as quickly as taken. The patient became rapidly exhausted and died in two weeks.

The second case was one of my own and the injury occurred in the removal of a carcinoma of the pelvis of the kidney, the result of a chronic irritation due to a large branched stone. The pedicle was extremely rigid from carcinomatous infiltration and in the attempt to remove it, the vessels were torn across in the infiltrated tissues. With considerable difficulty these vessels were caught by heavy, toothed forceps which were left *in situ*. On the fifth day a duodenal fistula showed itself. Biliary and pancreatic secretion and intestinal juices were passed in great quantities. The patient, already in a most serious condition, developed acute nephritis in the remaining kidney and died from asthenia on the tenth day. Necropsy showed a large fistulous opening in the descending portion of the duodenum.

The third case was one of duodenal fistula following nephrectomy seen in consultation. The pedicle had been infiltrated with inflammatory products, the kidney had torn loose. The injury to the duodenum was undoubtedly inflicted by the application of heavy forceps. In this case the fistula was small at first, but gradually increased in size, and the patient died two weeks after the operation. One feature in all these cases was the action on the skin of the escaping secretions. Large areas of the neighboring integument became scalded, painful and irritated. In one patient this set up a rapidly spreading eczema and in a week a great part of the skin of the body was affected.

From the fatal issue in these three cases, it would seem that accidental injury to the duodenum in connection with right nephrectomy is an exceedingly serious occurrence, and although after a somewhat careful examination of the literature, I have not found cases reported, I can only believe that this accident is more common than the records show, and that some of the cases in which fistulas have formed following right nephrectomy, while supposedly in other portions of the intestinal tract, have really been duodenal. It will be noted that in the three cases herein mentioned, duodenal injury took place during attempts to check hemorrhage, and probably all of them were due to forceps.

In this connection I would say that in the same manner the vena cava is even more frequently injured. When the pedicle is infiltrated, the renal veins may tear away from the vena cava and the latter be grasped in forceps in the attempt to stop the bleeding. On the left side the vena cava is not thus exposed to injury, since the veins are sufficiently long to cross the abdominal aorta to the left side of the body. Infiltration, either from infection or carcinoma, which causes a shortening of the pedicle containing the blood-vessels, makes the formation of an adequate stump difficult, and is the most common cause of the sudden hemorrhage which leads to the inaccurate use of the forceps and injury to the duodenum. Since the occurrence of the injury in the second case mentioned, I have tried to avoid the use of forceps in the first effort to control the bleeding from slipping of the ligature on the pedicle.

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[1] Harris: The Influence of Trauma in the Production of Movable Kidney, The Journal A. M. A., Feb. 13, 1904, p. 411.

[2] Gerster: Nephrectomy, Ann. Surg., 1912, lvi, 256.

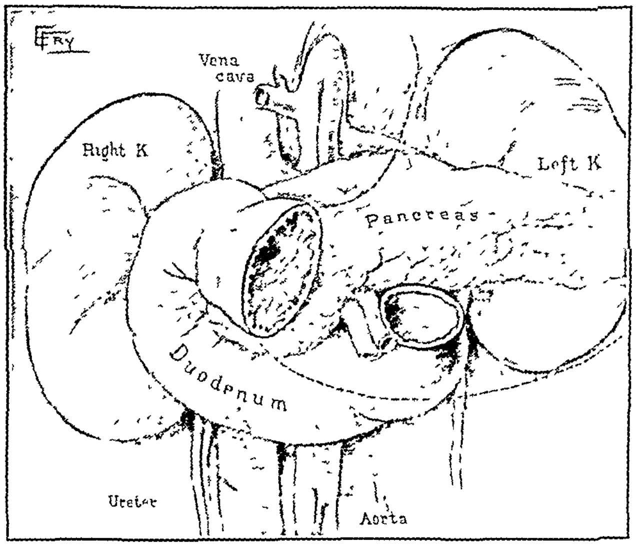

Fig 1.—Anatomic relation of duodenum to right kidney.

As a matter of fact, the use of forceps is seldom necessary for the immediate control of hemorrhage of this character. The fingers are so accurate and so sure a means of temporary hemostasis that they should be *depended on and the forceps used only to clamp the vessels after they are caught by the fingers.*

In vessels the size of the renals one has little difficulty in following the stream of blood directly to the pedicle and in its pulsation the artery fairly jumps into one's fingers. In these cases, the veins are usually tied to the artery by the infiltration and the whole pedicle can be thus secured with surprising ease. During the period in which an inadequate incision for nephrectomy was used I had the misfortune a number of times to lose control of the pedicle of the kidney during the enucleation, with sudden hemorrhage following, and never failed to grasp the vessels promptly with my fingers. This is quite true of other vessels of the same size. The larger the vessel, the more easily it can be grasped, as during systole the vessel is pushed forward.

In the removal of large pelvic tumors and rectosigmoidal carcinomas, I have, on several occasions, had a torn or divided internal iliac to deal with, and was always able, even with the hand deep under the tumor, to grasp and hold the vessels until the tumor could be removed and the arteries and veins accurately secured. With an adequate incision for the removal of the kidney, such as I have previously described,[3, 4] injuries to the duodenum or failure accurately to secure the vessels will seldom occur. Division of the structures behind the twelfth rib combined with transverse incision (Fig. 2) mobilizes the lower wall of the chest, and with the patient lying on the loin of the opposite side, well elevated in a saddle, nephrectomy has been made a safe procedure, because it is done under the eye.

In two classes of cases, however, injuries to the duodenum as well as the vena cava are liable to occur. When fixation and shortening of the pedicle takes place as the result of inflammation, usually in cases of pyonephrosis with stone and especially following nephrotomy for such a condition, the attempt to remove the kidney in the ordinary manner renders accidents in securing the pedicle not infrequent. Nephrectomy secondary to nephrotomy, especially when complicated by fistulas, are notoriously difficult. In Tuffier's clinic nearly fifteen years ago, I first observed such cases handled properly; that is, by means of a subcapsular nephrectomy. If the disease for which the kidney is to be removed is neither malignant nor due to tuberculosis or other disease which requires removal of the capsule, it is comparatively easy and safe to continue the outer incision into the fatty and fibrous capsule of the kidney and then to enucleate the entire kidney from its bed in the firm surrounding wall, securing the pedicle in the hilum of the kidney itself. Under such circumstances, it may occasionally happen that the kidney will be completely separated before the pedicle is secured, and there may be little hemorrhage from the vessels at the point where they have pulled off. If severe hemorrhage does occur, the firm rigid cavity lends itself to the control of the bleeding on pressure either by the fingers or a piece of gauze held in the fingers. By sliding the fingers from below up, the mouths of the vessels can readily be seen and controlled with forceps or suture. Were one working outside this firm capsule, no such control could be exercised over the vessels, which would promptly retract, adding to the difficulty of securing them. When there is much infiltration and subcapsular nephrectomy is not advisable, the peritoneal cavity and sometimes the

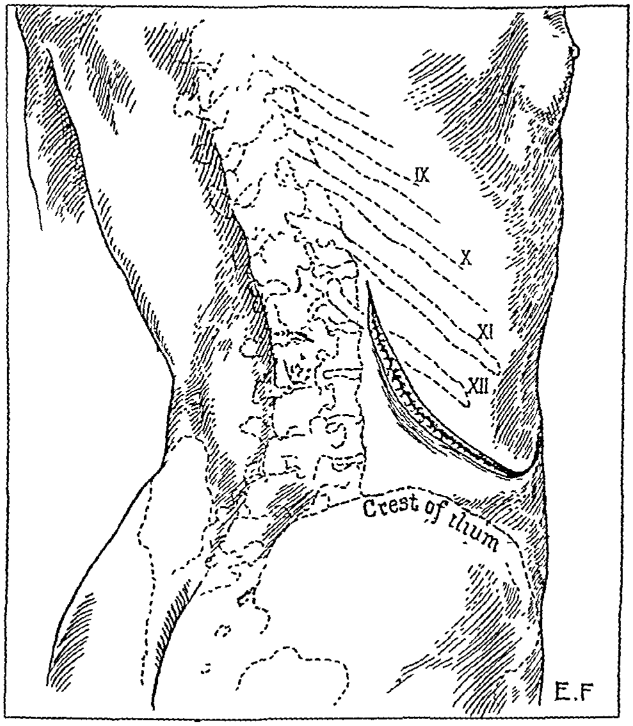

Fig 2.—Incision for operation on the kidney.

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[3] Mayo: The Incision for Lumbar Exposure of the Kidney, Ann. Surg., January, 1912, p. 63.

[4] Mayo: Nephrectomy without Drainage for Tuberculous Kidney, Surg., Gynec. and Obst., November, 1912, p. 523.

pleura may be opened. It is always necessary, therefore, after separating the kidney, but before its removal with possible soiling of the field, to examine carefully to see that there is no opening into the peritoneum. The pleural cavity, which fortunately is very rarely injured, makes itself manifest by a sibilant sound when the air rushes in and out during respiration so that this injury is not liable to be overlooked.

The kidney is held in position, first, by its fatty capsule, second, by the ureter and third, by the blood-vessels. In doing nephrectomy, the separation should be made in the following sequence: the kidney loosened from its bed until it is held only by the vessels and the ureter, the ureter then pulled to the surface, caught between two clamps, sterilized with phenol (carbolic acid) and both sides tied. The clamp is not to be left on the side of the kidney, since it may be pulled off during the further course of the operation with soiling of the field. By thorough separation of the perirenal adhesions, the vascular pedicle can, as a rule, be easily secured in a small mass.

In the removal of carcinoma of the pelvis of the kidney, injuries to the duodenum and vena cava are most liable to occur. The most frequent malignant tumor of the secreting structure of the kidney of the adult is the so-called hypernephroma, more properly termed "renal mesothelioma," as pointed out by Wilson.[5] We should remember that the kidney is formed from two entirely separate anlages. For a long time it was thought that the entire kidney was formed from a diverticulum from the wolffian duct. It is now known that only the ureter, pelvis, calices and straight tubules are so formed. That is, only that part of the kidney which collects the urine has its origin in the wolffian duct. The secreting structure of the kidney has a far different origin in the nephrogenic tissue, which is mesothelial in origin. Therefore, we have two entirely different types of malignant disease of the kidney, one having its origin in epithelial structures, a true carcinoma, and the other arising in mesothelial tissue, which has been incorrectly termed hypernephroma, a malignant disease of the secreting structure of the kidney which has some general similarity in morphology to tumors of the adrenal body. Grawitz,[6] in 1883, first called attention to the resemblance between these growths and the adrenal body and under his influence these tumors were called hypernephromas. Stoerk[7] and Wilson[5] have shown, however, that the adrenal body is formed in what is later to become the pleural cavity, and that it is always separated from the kidney by a complete histologic membrane, and, further, that these so-called hypernephromas always occur in the renal substance and not in the fibrous capsule of the kidney where such supposed adrenal remnants are most frequently found; also, that such tumors are rarely found in the adrenal body itself and when so found give an entirely different picture clinically and pathologically from the ordinary tumors in the kidney which have been called hypernephroma. That true hypernephromas or tumors of the adrenal body and of adrenal rests in the kidney may be found there is no question, but they are extremely rare. It now seems proved beyond reasonable question that the so-called hypernephroma of the kidney is, in most instances, mesothelial in its origin, and, unlike carcinoma, seldom involves the glands until very late, but tends to spread by means of the blood-stream as would be expected in tissue so closely related to the connective-tissue group. Nephrectomy for large tumors of this description is usually best accomplished by some type of transperitoneal incision, because the tumor presents anteriorly, crowding into the abdominal cavity. The incision outlined in Figure 2 can be brought well forward toward the median line, and, if necessary, supplemented by a straight incision in the right rectus muscle, or a long transperitoneal incision at the outer border of the rectus muscle will be found satisfactory. The ascending colon is separated and drawn to the inner side. The ureter is double tied in its course and cut between. The lower portion of the growth is separated on its inner side and the upper fragment of the ureter followed to the renal artery and vein. These vessels are dissected out, tied and divided before the growth is removed from its bed.

During the removal of renal mesotheliomas, accidental injury to the duodenum will not often take place, because the pelvis is seldom involved in the disease. But when we come to the group of carcinomas, true epithelial proliferation which involves the pelvis, the calices and other structures having origin in the wolffian duct, an entirely different picture is produced. In 85 per cent. of our cases this type of cancer was the apparent result of a chronic irritation from stones in the renal pelvis. Here infection and ulceration of the pelvis and secondary involvement of the connective tissue in the pedicle leads to fixation and shortening of the pedicle together with adhesion to the neighboring viscera on the right side, and sometimes to the duodenum in its retroperitoneal portion. In such cases, subcapsular nephrectomy is inadequate if we are to give the patient a chance for cure. The kidney and capsule, with the pelvis and an adequate portion of the ureter must be removed, and it is in these cases that the duodenum will be endangered even by the most expert and careful surgery.

When this accident occurs, what can be done to repair the damage? Here is the crux of the problem. As a rule, the duodenal injury is not made manifest until several days after the operation. The character of the fistula does not lend itself to spontaneous healing, the gastric, intestinal, pancreatic and biliary secretions in combination rapidly enlarge the opening, irritate the skin and exhaust the patient. As shown in the post-mortem in the second case mentioned, the fistula was large, infiltrated and, of course, without peritoneum. In a similar case I should, before the patient became exhausted, make a transperitoneal attack on the fistula itself, lift the descending duodenum from its bed, suture the opening, transplant a flap of peritoneum or omentum across the suture line and finally make a jejunostomy for temporary feeding purposes. It does not take much imagination to suggest and draw on paper various methods of multiple short-circuiting operations, but at the operating-table with the patient in the condition which would probably exist under such circumstances, the carrying out of such schemes would be sufficiently uncertain to make us careful to avoid the accident.

In the Cause of Medical History.—Anything that will, so to speak, humanize our art and science, will not only make us happier, but more satisfied with and proud of our profession and its aims, more inspiring to our students, better friends and helpers to our patients. With history as helpmate we apply "not the experience of one man only or one generation, but the accumulated experience of all mankind in all ages," to use John Herschel's phrase.—Klebs in Bull. Johns Hopkins Hosp.

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[5] Wilson: Note on the Mesotheliomata (So-Called Hypernephromata) of the Kidney, Ann. Surg., February, 1912, p. 282.

[6] Grawitz: Arch. f. klin. Chir., 1884, xxx, 824.

[7] Stoerk: Beitr. z. path. Anat. u. z. allg. Path., 1908, xliii, 393.

THE PERIOSTEUM IN BONE TRANSPLANTATIONS

IS CONTACT WITH LIVING BONE NECESSARY FOR THE LIFE OF GRAFTS, AND WILL TRANSPLANTED PERIOSTEUM PRODUCE NEW BONE? *

CLARENCE A. McWILLIAMS, M.D.
NEW YORK

Experiments were undertaken to determine, if possible, answers to the above questions. A distinguished authority, Dr. John B. Murphy, has maintained that contact with living bone is absolutely and unconditionally necessary for the subsequent life of grafts. Thus, he expresses himself[1] as follows:

> In bone transplantations, there is but one absolute essential, other than rigid asepsis, and that is that the bone graft must be closely connected at some one point at least with living, freshened, osteogenetic tissue. Also[2] he says: Bone with or without its periosteum, transplanted into the muscle or cellular tissue, practically always dies and is absorbed, when it is free from bony contact.

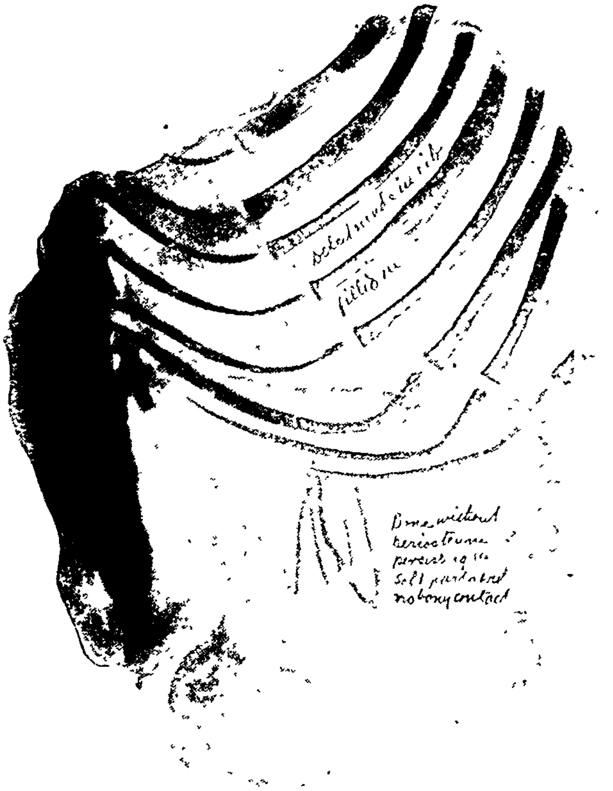
Defect made in rib
filled in
Bone without periosteum persists in soft parts and no bony contact

Fig. 1.—Difference between the reformation of the rib when the periosteum is left and when it is removed (Experiment 1). Above, defect in rib filled in; below, bone without periosteum persisting in soft parts with no bony contact.

No proofs, however, were forthcoming to substantiate this conclusion, and it was with the object of helping to decide this question that the following experiments were performed. Figure 1 proves that strips and fragments of bone without periosteum, transplanted into the soft parts, not in contact with living bone, may remain living. This is confirmed by photomicrographs. In Figure 2, one fibula strip without periosteum, which was in contact with living bone (the last rib), is shown to have become absorbed, leaving the three other fibula strips without living bone contact, yet alive and active. In Figure 3, the two ribs with periosteum are shown to have lost their contact with the living last rib, yet, notwithstanding, they both remain perfectly alive. In Figure 4, it may be seen that the left fibula *B* with periosteum, transplanted into the soft parts of the right leg and not in contact with living bone, remains beautifully alive. Figure 5 shows that the left fibula *B*, with periosteum into the soft parts of the right leg, not in contact with living bone, has proliferated to at least three times its normal size. It is very actively alive. Figures 6, 7 and 8 are roentgenograms of a human transplantation in which a fracture of the graft took place and the way new bone developed about this fracture, to my mind, does away with the idea that contact with other living bone has much to do with the life of grafts.

Conversely, I am prepared to show that even with this contact with living bone, grafts without periosteum may not live. Murphy[3] says:

> Bone with or without periosteum, transplanted in the same individual and contacted with other living osteogenetic bone at one or both of the ends of the transplanted fragment always becomes united to the living fragments and acts as a scaffolding for the reproduction of new bone of the same size and shape as the transplanted fragment, if asepsis is attained.

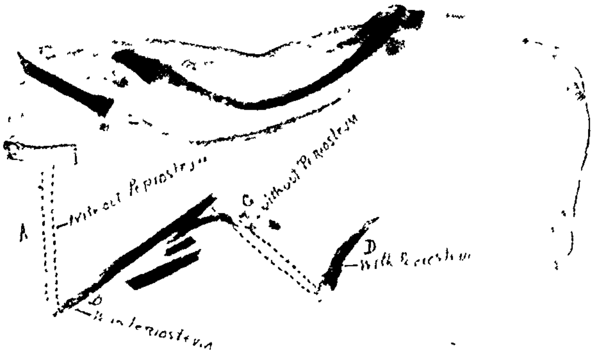

Fig. 2.—Uncertainty of grafts without periosteum (Experiment 3): *A*, strip without periosteum, entirely absorbed; *B*, strip with periosteum alive; *C*, strip without periosteum broken up into six pieces displaced upward; *D*, strip with periosteum alive with production of new bone.

No definite proof has been forthcoming as to the truth of this statement. I have gone all through Dr. Murphy's reported transplantations and find that in not a single instance has he made a transplantation without periosteum being on the transplant. Contact with living bone with Murphy is the keynote of success. To my mind he has overlooked the most important point in bone-grafting, namely, the periosteum. Thus, Figure 9 shows that fragments from the right fibula transplanted into the left fibula defect without periosteum, although in contact with the living stumps *A* and *B*, have entirely disappeared, while those fragments into the right fibula defect from the left fibula with periosteum have remained living beautifully. Contact with the living stumps certainly can have had very little to do with the life of the fragments in the center of the right leg transplant. Another roentgenogram showed the same result in an exactly similar operation with the exception that the fragments in the right leg with periosteum have taken on enormous growth, and who will say that contact with living bone has had any influence on the production of new bone in the central section of the transplanted fragments in the right leg of Figure 9?

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* From the Surgical Research Laboratory of Columbia University, College of Physicians and Surgeons, New York.

[1] Murphy, John B.: New York Med. Jour., Nov. 23, 1912, p. 1232.

[2] Murphy, John B.: Contribution to the Surgery of Bones, Joints and Tendons, The Journal A. M. A., April 6, 1912, p. 989.

[3] Murphy, John B.: Contribution to the Surgery of Bones, Joints and Tendons, The Journal A. M. A., April 6, 1912, p. 989.

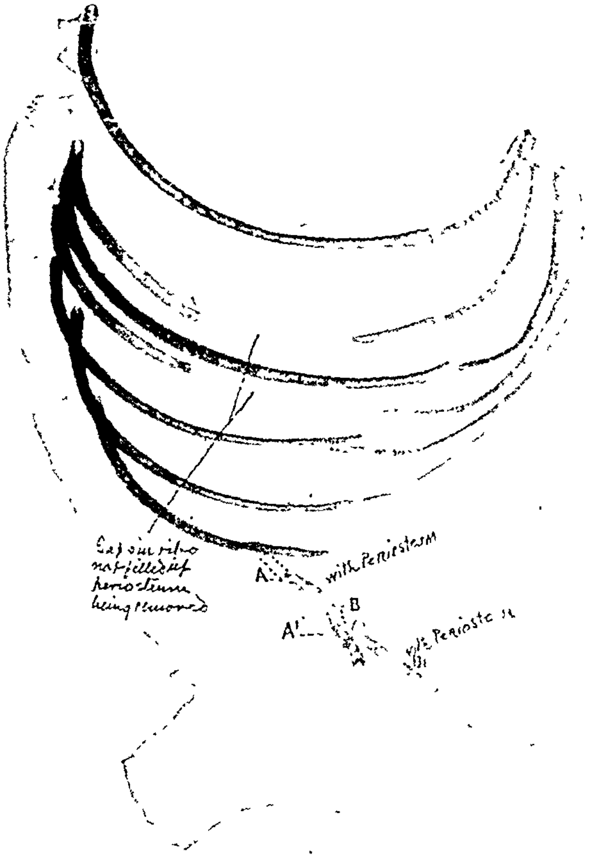

Fig. 3.—Transplantation of ribs (Experiment 4). Gaps in ribs not filled up, periosteum being removed; A, transplant fractured into two pieces, A¹ being the second and lower piece of A; B, second grafted rib (with periosteum) likewise fractured, B being the small upper part of Bi.

Again, in Figure 4 the right fibula without periosteum *A*, transplanted into the left fibula defect, is shown to have almost entirely disappeared, although this fibula was in contact with the living stumps, while the left fibula with periosteum *B*, grafted into the right fibula defect, yet not in contact with living bone, has remained living. Exactly the same thing is shown to have occurred in Figure 5, *A* being the position in the left leg of the transplanted right fibula without periosteum. This has entirely disappeared, while *B* is the left fibula with periosteum, not in contact with living bone, transplanted into the right defect. It has grown and enlarged markedly.

Murphy, Albee and others have had practically 100 per cent. of successes with grafts made with periosteum. My experience is the same, except that I have had one human transplantation with periosteum which became infected, necessitating the removal of the graft, which should not count in the result, and one animal experiment in which the graft made with periosteum disappeared. I have had 87 per cent. of successes with periosteum on grafts (sixteen cases).

On the other hand, I have had twenty-five transplantations without periosteum, and of these but 48 per cent. succeeded, although there was primary union in all. How can one escape the conclusion that periosteum, next to asepsis, is the important factor in making for success in bone-grafting? There may be some uncertainty as to just how the periosteum acts, but of its importance there can be no doubt. My conclusion is that it acts by affecting the blood-supply to the grafts and that its osteogenetic function is of secondary importance, else why did 48 per cent. of the grafts without periosteum succeed? The answer, it seems to me, is that the blood-supply of the 48 per cent. of successful grafts without periosteum was sufficient to keep them alive, while in 52 per cent. it was insufficient, and hence the grafts died.

REPORTS OF EXPERIMENTS

EXPERIMENT 1 (Dog 172).—This dog was killed eight months after the operation. This experiment, in the first place, indicates the difference between the reformation of the rib when the periosteum is left and when it is removed. The rib in this dog was subperiosteally removed. It has entirely reformed (Fig. 1). The rib without periosteum was split into longitudinal strips which were transplanted under the rectus sheath of the abdomen. These strips have grown together and they show no evidence of any absorption, not being honeycombed at all. This I attribute to the fact that the splitting of the rib allowed a sufficient blood-supply to get to the bone-cells so that they remained alive. This and the following experiment are a refutation of Dr. Murphy's statement that a bone-graft, with or without periosteum, when transplanted into the soft parts and not in contact with living bone, always becomes absorbed.

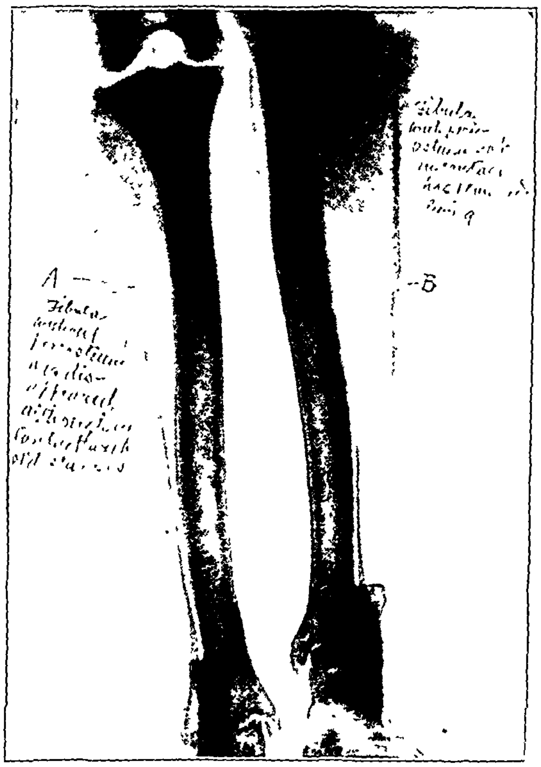
Fibula with periosteum not in contact has grown
A
Fibula without periosteum has disappeared although in contact with old stumps
B

Fig 4.—Difference made by presence or absence of periosteum (Experiment 4); *A*, fibula without periosteum has disappeared, although in contact with old stumps; *B*, fibula with periosteum, though not in contact, has remained living.

A photomicrograph of a section of the abdominal transplant shows that the fragment of bone measures 0.2 cm. in diameter. The bone contains many cells with well-preserved nuclei, and also perfect haversian canals with red blood-cells within them. The bone itself is intact. There are several osteoclasts within lacunae on the margin of the fragment. Many osteoblasts are also present. The marrow is well preserved and contains blood-spaces, many of them filled with red blood-cells. Because of the osteoclasts, there are present destructive processes, but at the same time proliferation is also in progress. The bone seems to be perfectly alive.

Experiment 2 (Dog 19).—The dog was killed six months after subperiosteal resections of two ribs. One rib had entirely reformed while the other had not quite completely filled in the defect. The ribs without periosteum were broken up into the smallest possible fragments and these were transplanted into the abdomen lying on the muscle. A roentgenogram showed that the fragments had grown together and increased in size. There was no sign of any absorption.

A photomicrograph of a section of the bone in the abdomen shows a fragment, measuring 2 by 0.3 cm. This bone fragment is enclosed in a dense connective-tissue enveloping capsule. There are many osteoblasts present both on the trabeculae within the bone-spaces and also on the periphery of the fragment, especially at either end. There are many well-formed blood-vessels present in the haversian canals. The marrow and adult fat within the bone spaces also support many blood-vessels, having well-formed walls. The red blood-cells in these blood-spaces are well preserved and distinct. The bone-cells are normal in appearance and their nuclei stain distinctly. There are no signs of degeneration or destructive process present in the sections, which seem perfectly alive.

Experiments 1 and 2 clearly demonstrate that the life of a living graft depends solely and entirely on a sufficient blood-supply. The large grafts were each broken up into smaller pieces, so that blood had easy access to their cells, and hence the grafts lived and increased in size, notwithstanding the fact that there was no periosteum attached to them and that they were not in contact with living bone. My human cases demonstrate the fact that large grafts without the periosteum may die, and I infer from this that the blood-supply to the large grafts is insufficient to keep them alive. Since, if the periosteum be left attached, the graft may not die, the soft and porous structure (as compared with bone) of the periosteum permits it to get its blood-supply from the surrounding tissues, and from this the bone is reformed.

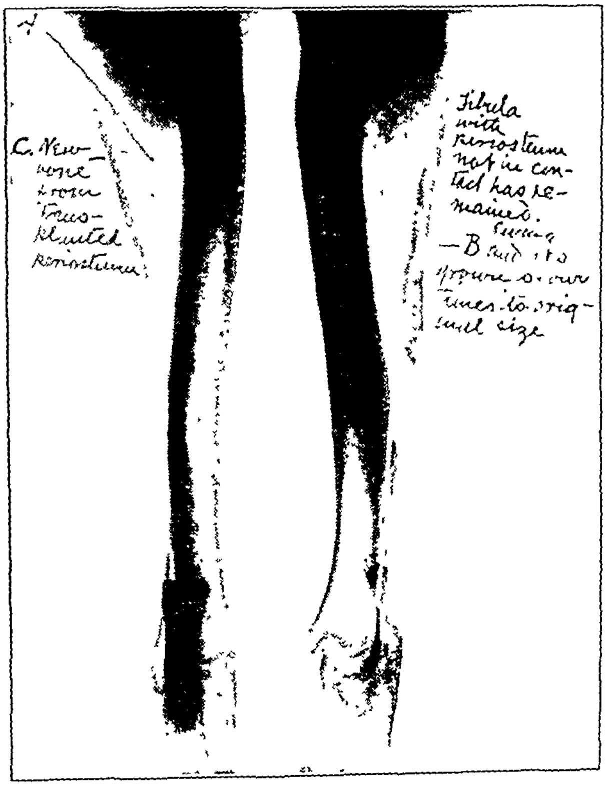
A
C. New bone from Trans-planted periosteum
Fibula with periosteum not in contact has remained.
—B living and its grown four times to orig-inal size

Fig. 5.—Bone transplantations with and without periosteum; *A*, piece of fibula without periosteum has entirely disappeared; *B*, fibula with periosteum not in contact has remained living and has grown to four times its original size; *C*, new bone from transplanted periosteum.

Experiment 3 (Dog 363).—Two-thirds of each fibula were resected with their entire periosteum. Each fibula was split into two pieces, making four sections in all. From two of these pieces the periosteum was removed, while the other two were transplanted with their periosteum still attached. The external oblique of the left side was dissected up, just below the last rib, whose periosteum was split and separated from the bone. One of the four strips (without periosteum) was sutured to this bared area of the last rib. To the end of the first strip was sutured a second strip of fibula with periosteum on half its surface. To the end of the second piece of bone was sutured a third strip of fibula without periosteum on any of its surfaces, and to the end of the third piece was sutured the fourth strip of fibula with periosteum on half its surface.

Result.—The defects made in the fibulae have not been filled in with new bone in the slightest, 108 days after operation. The strip *A* (Fig. 2) without periosteum has been entirely absorbed. The strip *B* with periosteum remainst perfectly alive and shows no signs of any absorption. The strip *C* without periosteum has become broken up into six pieces, which have become displaced upward. All these irregular pieces look alive. The strip *D* with periosteum is alive and its irregularities show that it has produced new bone.

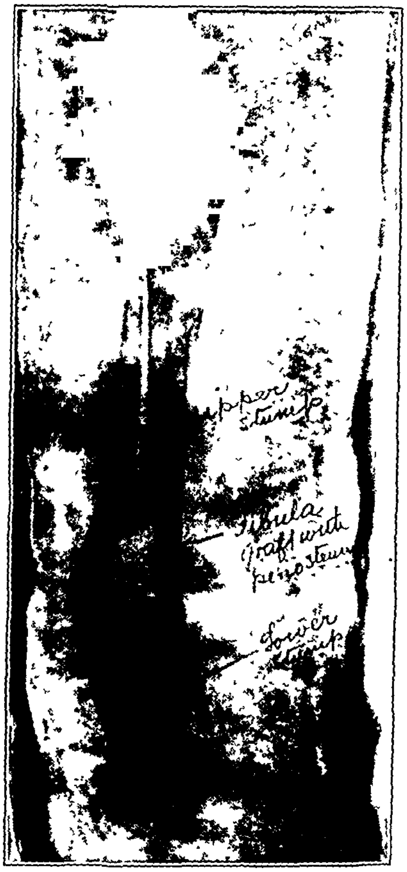

Fig. 6.—Five inches of the opposite, healthy fibula, transplanted into the medullary cavities of the stumps of the old tibia, in a child.

This experiment demonstrates that without periosteum there is always uncertainty as to what a graft without it will ultimately do. In some cases the bone will remain living, in other instances it will become absorbed, in other cases it will break up into small pieces, all of which goes to show that the question of blood-supply is the all-important factor. With periosteum we are sure of the grafts living.

Experiment 4 (Dog 220).—Two inches were excised from two ribs with their entire periosteum on all sides. The last rib was bared, the external oblique split. The last rib was separated from its periosteum for a short distance, and to this bared area was sutured one end of one of the ribs with its periosteum on all sides intact. To the other end of the transplanted rib was sutured one end of the second rib with periosteum on all its sides, by drill-holes in the two extremities. The two ribs were then transplanted between the external and internal oblique muscles.

Result.—The defects in the two ribs have not in the slightest become filled in with new bone, 112 days after operation. This is probably due to the fact that there was no channel left between the ends. The transplant A (Fig. 3), has become fractured in two pieces, A¹ being the second and lower piece of A. Both these pieces are undoubtedly alive. The upper part of A has become displaced from the last rib. This is another demonstration of the fact that grafts do not need to be in contact with living bone in order to remain living, contrary to Dr. Murphy's teaching. The second grafted rib Bi (with periosteum) has likewise become fractured, B being the small upper part of Bi. The entire graft B likewise remains living, although it is not in contact with living bone.

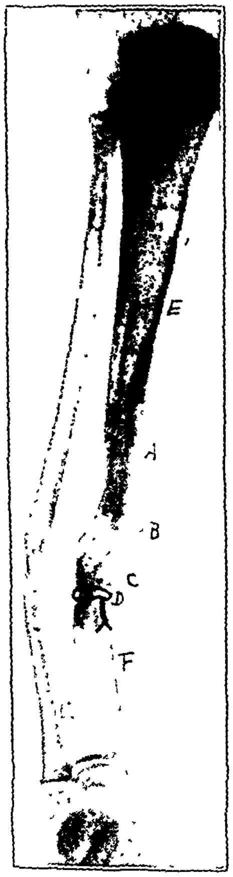

Fig. 7.—Seven months after the grafting operation in the same patient as in Figure 6; *A*, new bone; *B*, callus; *C*, fracture which occurred two months after the operation; *D*, lower fragment of the graft; *E*, *F*, ends of the old bone of the upper and lower stumps.

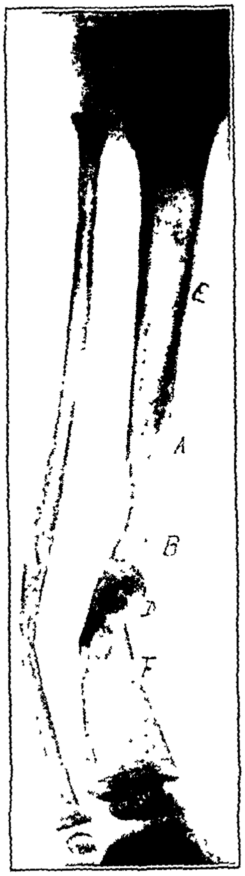

Fig. 8.—Three months after the removal of the wire strand shown in Figures 6 and 7, ten months after the original grafting operation; *A*, new bone; *B*, callus; *D*, lower fragment of graft; *E*, *F*, ends of the old bone of the upper and lower stumps.

Experiment 5 (Dog 423).—A section from the right fibula intact without periosteum was transplanted into a left fibula defect in contact with old stumps. The stumps of the right fibula defect were covered with muscle which was sutured over them. The entire section from the left fibula with the periosteum still on it uninjured, was placed under the fascia of the right leg.

Result.—Eighty-one days after the operation, the section into the left fibula defect without periosteum has almost completely disappeared (*A*, Fig. 4). There is a slight line left indicating a persistence of some of it. This disappearance has occurred notwithstanding that it was in contact at both ends with living bone. The difference the presence or absence of the periosteum makes is indicated in the right leg. The section from the left fibula into the right fibula defect with periosteum has remained of its original size and seems perfectly alive (*B*, Fig. 4), notwithstanding that it was not in contact with living bone. This experiment is another evidence that Murphy is mistaken in his statement that grafts must be in contact with living bone *in order to live*. This experiment would also seem to indicate that the periosteum is the important element in maintaining the life of grafts, owing probably to its influencing favorably the blood-supply.

Experiment 6 (Dog 426).—Sections from each fibula were excised. From the section from the right side all the periosteum was bluntly stripped off from all its sides in one place. This strip of periosteum *C* was vertically stretched out under the skin of the left leg. The bone itself from the right fibula without periosteum, *A*, was placed in contact with the ends of the old stumps in the left fibula defect. Over the ends of the stumps of the right defect in the fibula, muscle was sutured so that the graft would not be in contact with living bone, and the section *B* from the left fibula with its periosteum entire was placed in the superficial muscles of the right leg. The section of bone with periosteum in right leg, *B*, not in contact with living bone, has grown to two or three times its normal size and is certainly perfectly alive.

Result.—One hundred and two days after operation (Fig. 5), The piece of fibula *A* without periosteum from right fibula into left defect has entirely disappeared. This is probably due to the fact that the bone was transplanted entire. Had it been split as in the first two experiments it is possible that it would have survived, owing to the consequent better blood-supply. The periosteum, *C*, on the other hand, transplanted under the skin of the left leg, has developed a new mass of bone of the size and shape of the old fibula from which it was taken.

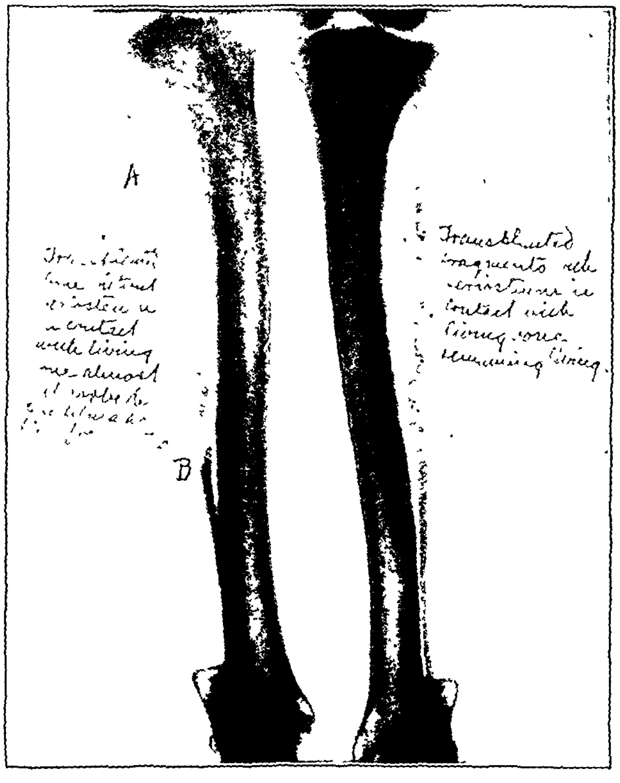

Fig. 9.—Transplantations with and without periosteum (Experiment 7); left fibula defect, *A*, *B*, transplanted bone without periosteum in contact with living bone almost absorbed; the fibula was first fragmented; right fibula defect, transplanted fragments with periosteum in contact with living bone remaining living.

Figures 6, 7 and 8 are roentgenograms of the same human transplantation, in which a defect in the tibia had to be supplied by a graft. In Figure 6 we see 5 inches of the opposite, healthy fibula transplanted into the medullary cavities of the stumps of the old tibia. The lower extremity of the graft was held in place by an encircling wire strand. Periosteum covered the graft on all its sides and this was unsplit. Figure 7 was taken seven months after the grafting. A fracture took place in the graft about two months after the operation, owing to the child kicking off the splint one night. In Figure 7 we see what an enormous callus, *B*, developed just above the fracture. I do not wish to be too dogmatic about where the new bone of the shaft *A* and that of the callus *B* came from, but I unhesitatingly think that this new bone is derived either from the periosteum itself or else from the bone-cells of the graft itself. Were it derived from the ends *E* and *F* of the old bone of the upper and lower stumps, it seems to me that it would shade off the farther we went from the ends of the old stumps, being greatest in amount near the old bone and shading off to become less and less the farther we went from the stumps. As a matter of fact, the greatest amount of new bone is at the fracture spot in the graft, which is some distance from either end of the stumps. The lower fragment, *D*, of the graft has not developed proportionately, owing to the inhibitory influence of the wire strand, which is eroding the fragment. This wire was then removed. Figure 8 was taken three months after the removal of the wire strand, and ten months after the original grafting operation. The lower fragment, *D*, has developed greatly, the furrow made by the wire being more than completely filled in by new bone. The fracture is consolidating nicely. That the bone of the lower fragment, *D*, has a life independent of the lower stump, *F*, is indicated by the lower stump, *F*. It is clearly seen that *D* is uniting to the lower stump *F*, and also to the graft *B* by life inherent in itself. The callus, *B*, is much smaller in Figure 8 than in Figure 7

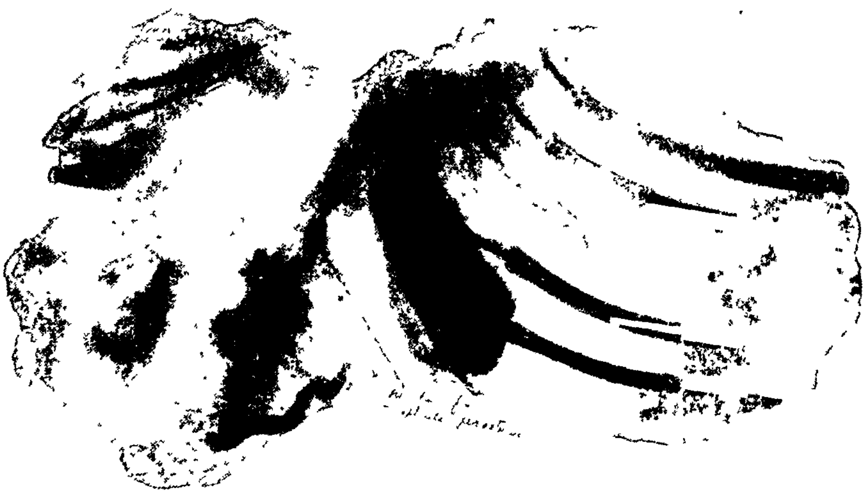

Fig. 10.—New bone from transplanted periosteum (Experiment 9).

EXPERIMENT 7 (Dog 293).—Figure 9 was taken nine months after the transplantation, in which a segment from the left fibula was divided into as small fragments as possible, with the periosteum left attached to each fragment, and these fragments were transplanted into the right fibula defect in contact with the stumps of the fibula. Into the left fibula defect were transplanted fragments from the right fibula from which all the periosteum was scraped.

Result.—The fragments into the left fibula defect *A* (without periosteum) have almost completely disappeared. The fragments are few in number, isolated, not united, and they look as though they were becoming absorbed, being much reduced in size. In contrast to these, the fragments transplanted into the right fibula defect (with periosteum), have in most places become united to each other, show no diminution in size and cause healthy shadows. It seems evident that there was not supplied enough blood to the left fragments without periosteum to keep them alive. This picture is another evidence of the value of the periosteum and is another proof of the fact that contact with living bone is not the important element which Dr. Murphy has attributed to it, and demonstrates the value of the periosteum.

EXPERIMENT 8 (Dog 309).—Fragments from a section of the right fibula from which all the periosteum was thoroughly scraped, were grafted into a defect made in the left fibula. Fragments with periosteum still attached to them, taken from a section of the left fibula, were transplanted into the right fibula defect.

Result After Eight Months.—The fragments into the left fibula defect without periosteum have entirely disappeared. The pieces into the right fibula defect with periosteum have markedly increased in size and have largely united to each other. This case illustrates the value of the periosteum on grafts in case there is a deficiency in the blood-supply. The feature to be particularly emphasized in this experiment is the pronounced increase in the size of the grafts with periosteum on them transplanted into the right defect, which denotes an active life in the grafts; also the fact that, although the middle section of the right-sided graft does not seem to be firmly united to the neighboring grafts, yet this middle section, from its deep shadow, appears to be as actively alive as the sections which are in intimate contact with the ends of the old stumps, all of which still further goes to show that contact with living

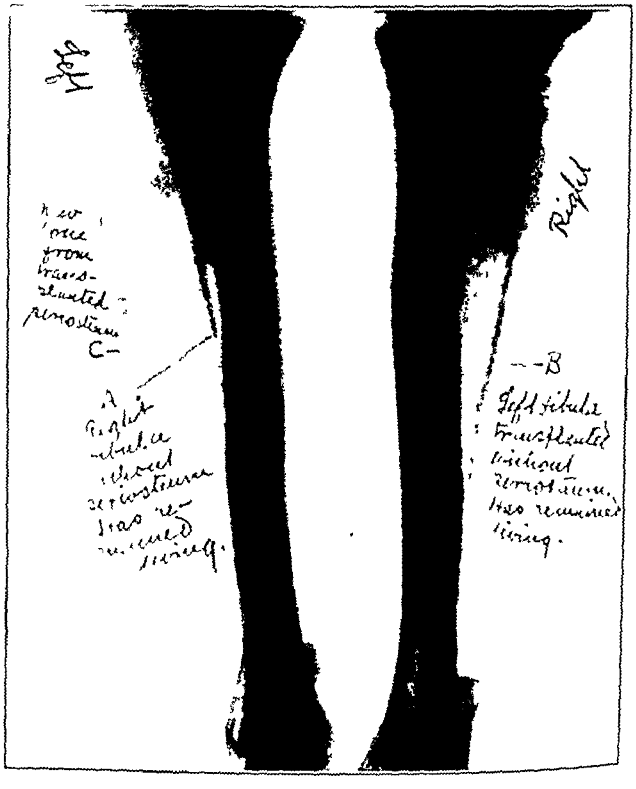
Left
Right
new bone from transplanted periosteum C—
A Right fibula without periosteum has remained living.
—B
Left fibula transplanted without periosteum. has remained living.

Fig. 11.—Transplantation of fibula sections without periosteum and transplantation of periosteum (Experiment 10); *A*, right fibula without periosteum has remained living; *B*, left fibula transplanted without periosteum has remained living; *C*, new bone from transplanted periosteum.

old bone has not the important influence on the subsequent life of grafts which Dr. Murphy has attributed to it.

EXPERIMENT 9, Figure 10.—This animal was killed six months after the operation. The removal of a section of a rib with its attached periosteum shows no reformation of the rib. The periosteum was stripped off the section of rib bluntly and this sheet was planted between the rectus muscle of the abdomen and its posterior sheath.

Result.—On cross-section six months later, this transplanted periosteum cuts as hard as bone and with the same sensation (Fig. 10). A photomicrograph of a section of this new bone from the periosteum shows that there is a distinct mass of bone, measuring 0.8 by 0.2 cm., which is enclosed in a definite connective-tissue capsule. The bone itself contains cells, the nuclei of which stain deeply with hematoxylin. At points on the periphery of the bone there are osteoblasts. In the actual bone substance itself there are haversian canals which contain blood-vessels the size of large arterioles. Within the bone trabeculae there are adult fat- and marrow-cells, and the whole presents a normal appearance. There are many blood-spaces in the marrow and these spaces are supported by a definite connective-tissue stroma. The red blood-cells in these blood-spaces, while not sharp and distinct in outline, are not degenerated. There are no osteoclasts or round cells present, suggestive of either a destructive process or one of inflammation. The bone is alive and the periosteum has reformed a normal rib.

EXPERIMENT 10 (Dog 374).—From each fibula 2½ inches were resected. The periosteum was removed from each *in toto.* The periosteum from the right fibula section was a beautiful sheet, removed without scraping, by stripping it off the bone bluntly. This was transplanted just under skin of the left leg, lying on the muscle. The periosteum from the left fibula section was a frayed-out strip which was scraped off with a knife. This was transplanted under the skin of the right leg. The right fibula section without periosteum was transplanted into the left fibula defect and the left fibula section without periosteum was transplanted into the right defect.

Result.—After 142 days each fibula section without periosteum has remained living perfectly. That transplanted periosteum may produce bone is here again demonstrated. The perfect sheet of periosteum transplanted into the left leg has produced a fine piece of bone, while the frayed-out piece of periosteum into the right leg has produced just a suspicion of new bone (Fig. 11). This indicates that the periosteum is a delicate structure. It is worthy of remark that the periosteum into the left leg was removed bluntly by tearing it off the bone and was not obtained by scraping it off with a knife, which procedure would carry off with the periosteum some of the superficial bone-cells.

WILL TRANSPLANTED PERIOSTEUM PRODUCE NEW BONE?

There have been various answers to this question. Macewen has minimized the importance of the periosteum when he says that it acts merely as "a limiting and protecting membrane and has no osteogenetic function." He has not found that it produced new bone when it is raised up in strips from the bone. I have found that new bone would develop about transplanted periosteum in about one-quarter of the cases in which it was transplanted alone. Thus, in Figure 10, the periosteum from a rib, transplanted into the abdomen, has produced new bone. Also in Figure 5, a fine growth of bone, *C,* is seen to have developed about the transplanted periosteum. Likewise in Figure 11, new bone, *C,* has developed about the transplanted periosteum. In many cases I believe that the periosteum is so greatly damaged in separating it from the bone that it will not produce bone. To my mind the question of whether or not periosteum will produce new bone when it is transplanted alone into the soft parts is beside the mark and of little importance, because, as I believe, the function of the periosteum is to maintain the nutrition of the grafts quite aside from any osteogenetic function that it may have.

CONCLUSIONS

1. The theory that contact with living bone is necessary for the subsequent life of grafts must be given up.

2. Living bone-grafts have life inherent in themselves and are capable of permanent growth even when transplanted into the soft parts.

3. The life of grafts is dependent on a sufficient blood-supply. This is surely obtained when periosteum is on the grafts, since practically 100 per cent. of such grafts are successful, whether the transplants be in contact with living bone or not, or whether they be grafted into the soft parts and not in contact with living bone.

4. Forty-eight per cent. of my bone grafts without periosteum were successful whether contact with living bone was made or not. This goes to show that there is some other factor present making for the life of grafts than the periosteum or contact with living bone, and this I take to be a sufficient blood-supply. It is therefore evident that the periosteum has a deciding influence in favoring a good blood-supply with its consequent subsequent life of the grafts. Since it is impossible to tell beforehand when grafts without periosteum will attain this sufficient blood-supply, the lesson is evident that grafts should always be transplanted with as much of their attached periosteum as possible.

5. Periosteum transplanted into the soft parts will produce new bone in a certain proportion of cases.

32 East Fifty-Third Street.

EPIDIDYMOTOMY

WITH REPORT OF CASES

CARLISLE P. KNIGHT, M.D.
Assistant Surgeon, United States Public Health Service
STAPLETON, N. Y.

Excellent success and most gratifying results have been obtained at the United States Marine Hospital, Stapleton, N. Y., with Eckels' operation for epididymitis. The technic described by Eckels,[1] except for slight modifications, has been followed.

In the operation, as I have performed it, an incision is made in the scrotum about 1½ inches below the lower border of the external ring and is prolonged far enough to allow free delivery of the testicle with the tunica vaginalis. The organ is then wrapped in sterile cloths moistened in warm saline solution, and a small incision is made in the tunica vaginalis which allows any fluid present to escape. The epididymis is next exposed and that portion which appears inflamed is punctured in several places. This relieves the tension by allowing the restricted fluid to escape. Eckels states that for puncturing the epididymis he uses a blunt probe or grooved director. I employ a large blunt-pointed needle, making from ten to twelve punctures, and I believe that the needle is better adapted for this procedure, especially when operating under local anesthesia. After the tissues have been thoroughly washed with warm sterile saline solution, the testicle is returned to the scrotum. The tunica vaginalis is then approximated and united with a continuous catgut suture. The scrotum is then united with interrupted silkworm sutures. The skin in proximity to the incision is again painted with iodin solution to insure asepsis, a sterile dressing is applied and the scrotum bridged with adhesive tape to give support for the first few days. Eckels also states that, if pus is present, a longitudinal incision should be made in the epididymis and a few strands of silkworm-gut inserted for drainage. In two cases pus formation was found at operation. I have used the procedure described above, and the results obtained were as satisfactory as in those cases in which only inflammation was present.

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[1] Eckels, Lauren S.: Epididymotomy, THE JOURNAL A. M. A., Aug. 16, 1913, p. 470.

Eckels states that the preparation of the patient is the same as that for a general anesthetic, as local anesthesia is not advisable. I have used it, however, for this operation in several of the cases which I report, with absolute success, hearing no complaints of pain, and noting no symptoms of shock. There may be some pain if an orchitis is present, as happened in one of the cases, but with careful handling of the testicle, this symptom can be obviated. For local anesthesia, a 1 per cent. solution of novocain with epinephrin is infiltrated along the line of the intended incision. Twenty minutes later the incision is made and the tunica is exposed, infiltrated and incised, after which the solution is injected into the epididymis, and anesthesia of the part is complete. The procedure of puncturing and, if necessary, incising, is then absolutely painless. Because of the rapidity with which the operation can be performed, from five to ten minutes being the time required, and the absence of pain and shock, the procedure does not seem to warrant the use of the dangerous general anesthetics.

From a study of the cases at this hospital, the points observed almost entirely agree with the conclusions noted in Eckels' article. The only exception is that I am unable to make any deduction as to the probability that there is a smaller percentage of sterility following the disease in those operated on. I agree with him that the operation should be the procedure of choice in the treatment of epididymitis and believe that the patients should be operated on as soon as symptoms appear, thereby eliminating the possibility of pus and abscess formation.

REPORT OF CASES

Case 1.—J. M., aged 21, a Swede, seaman, applied at the hospital for admission, Aug. 27, 1913. Patient's previous history was unimportant. A few days before admission he noticed a discharge from the urethra. Gonorrhea was diagnosed. Patient was put on the usual treatment and case progressed favorably until September 15, when great pain began in the left testicle. Examination revealed an epididymitis. Operation was performed, September 16, under a general anesthetic. Morning temperature on the day of operation was 38.2 C. (100.76 F.), but became normal at the end of forty-eight hours, with patient comfortable and free from pain. Case progressed favorably and recovery was noted Sept. 23, 1913.

Case 2.—J. G., aged 40, an American seaman, was admitted to the hospital Oct. 11, 1913. Previous history was unimportant. Gonorrhea was diagnosed. Patient was put under treatment and the disease ran the usual course until October 24, when the discharge stopped abruptly. October 30 the right testicle became swollen and the epididymis became enlarged and very painful. Epididymotomy was performed November 1 under general anesthesia. November 2 pain had ceased. November 6 patient was walking around ward and note of recovery was made.

Case 3.—W. H., aged 20, an American seaman, was admitted to the hospital, Sept. 27, 1913. Two weeks previously he noticed a discharge from the urethra and ten days later complained of pain and swelling in the left testicle. Examination revealed gonorrhea complicated by epididymitis. Treatment for the gonorrhea was begun, and palliative measures were employed for the epididymitis. The testicle showed no improvement and on October 8, the patient consented to an operation, which was performed under local anesthesia. Relief from pain was instantaneous, and six days later he was up and about the ward. October 17, patient had fully recovered from the epididymitis. Later however, an endocarditis developed and he was not discharged until Nov. 22, 1913.

Case 4.—J. H., aged 20, a seaman, was admitted to the hospital, Nov. 14, 1913. Eighteen days previously he had noticed a discharge from the urethra. Two days prior to admission he complained of severe pain and swelling in the left testicle. Examination revealed gonorrhea complicated by epididymo-orchitis. Patient was put to bed and given palliative treatment. Temperature on admission was 39.4 C. (102.92 F.). No improvement was noted in his condition and on November 17 the right epididymis became involved. Temperature at that time was 39 C. (102.2 F.). The next day operation was performed on both testicles under local anesthesia. Twenty-four hours after the operation, patient was resting comfortably except for slight pain which was due to the orchitis on the left side. Pain was gone from the right epididymis. At the end of forty-eight hours temperature was normal and all pain absent. November 21, patient was up and about ward. November 25 wound was healed and recovery was noted.

Case 5.—L. A., aged 21, an American seaman, was admitted to the hospital, Nov. 18, 1913. Eight months previously he had first attack of gonorrhea, but had never been cured. The discharge has returned at intervals and lately has been flowing freely. A few days before admission, patient complained of a severe pain in the left testicle. Examination showed a swollen and tender epididymis. He was given palliative treatment until November 23, when he consented to an operation. This was done under local anesthesia. The following day all pain was absent, the swelling reduced and the case made the usual good recovery at the end of six days.

In three other cases operations have been performed under local anesthesia with the same good results, such as absence of pain during operation and the immediate abatement of the symptoms of inflammation.

CONCLUSIONS

Attention is called to the points which are considered most important in favor of the operative procedure.

1. There is immediate abatement of all symptoms for which the patient seeks relief.
2. The tendency to relapse is nil.
3. The operative procedure is without danger as regards anesthesia, because the general anesthetics can be eliminated.
4. This operation as compared with the older methods of treatment is one of utmost importance from an economic point of view, not only to the patient, when loss of time from daily labor is considered, but also to the hospital in its economic administration, by greatly diminishing the number of days of treatment.

I am indebted to Senior Surgeon George W. Stoner, medical officer in charge, for permission to publish this paper, and to P. A. Surgeon W. M. Bryan for his kindness in calling my attention to the article by L. S. Eckels.

Neurasthenia.—The neurasthenic habitually looks at things from the wrong angle. His judgment and ideas, especially those concerning his own condition, are generally hastily drawn, on insufficient grounds, from emotion and suggestion, rather than from reason.—Casamajor.

CONGENITAL PYLORIC STENOSIS

A STUDY OF TWENTY-TWO CASES WITH OPERATION BY THE AUTHOR

H. M. RICHTER, M.D.
Assistant Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Wesley and Cook County Hospitals
CHICAGO

In June, 1911, I placed on record[1] eleven cases of pyloric stenosis in infancy, in which I operated, with one operative death and one death subsequent to operation, which apparently was not due either to the operation or to the original disease. None of the nine infants living at the time of that report has since died, nor has any had a recurrence of symptoms or developed any digestive disturbance of any type. Since then I have operated in eleven cases, with two deaths, making a total of twenty-two cases, with three operative deaths and one death subsequent to recovery from the operation. Though the literature of pyloric stenosis of infancy has become abundant, the study of the cases more and more complete, and simple case-reports exceedingly numerous, it has seemed to me that some phases of my work justify placing it on record.

Of the twenty-two cases, nineteen were of the type described as hypertrophic pyloric stenosis; three were of the type known as spasmodic. In all of the nineteen a definite, firm, olive-shaped tumor was demonstrated at operation; in eighteen of the nineteen it was palpated and recognized through the abdominal wall before the operation. In the only case in which it was not palpable before operation, the clinical findings were so clear that the diagnosis was made without reserve. The tumor consisted of a firm, olive-shaped body, roughly from ½ to ¾ inch in length. It was covered by smooth, glistening peritoneum that had the appearance of being stretched over the mass. There was no external evidence of inflammatory reaction and no attempt at fixation. The mass was as freely movable as a mass at the pylorus so commonly is when found in the adult, and this mobility was recognized clinically and is in fact probably the cause of the frequency with which clinicians have failed to demonstrate it. The tumor had the firmness of cartilage; it was not soft or pliable in any case; there was no case in which its consistency made the finding questionable, no case in which a gradation could be made out between a tumor mass and a mere thickening of the part involved. Moreover, there was no gradation between the tumor mass and the adjacent stomach and duodenum; it was sharply defined. Not in every case is the tumor constantly palpable. It has seemed to me to be more constantly palpable after emptying the stomach by vomiting, or by means of a tube. In two cases in which a pyloroplasty was done, and in one case that came to necropsy, a section of the pylorus showed the mucosa to be relatively redundant, so that it bulged out of the incision when relieved of the compression by the tumor. The histological picture has been perfectly worked out by others; in the one case of my series that came to necropsy the findings agreed with the universal report, namely, a simple hyperplasia of the circular muscle fibers, with no change in any other structure of the pylorus.

The stomach, when it had not been emptied before opening the abdomen by the passage of a tube, was always found distended to a marked degree of tension; the duodenum was always empty and collapsed. It was perfectly evident that the tumor formed a complete obstruction of the canal. In our earlier cases, when we continued the operation without emptying the stomach with an esophageal tube, the various manipulations never forced the air in the stomach through the tumor into the bowel. The bowel remained collapsed and ribbon-like up to the moment of removal of the clamps, when it would balloon out, and the advancing column of air could easily be followed as far as the jejunum was exposed. No hydrostatic test could more clearly prove the existence of a complete block, though the degree of tension was not, of course, determined.

In none of the cases was there any accompanying congenital malformation, though in one (Case 4) a particularly short mesocolon made it impossible to do a retrocolic gastrojejunostomy. Other observers have reported accompanying congenital malformations. A sister of one of the patients (Case 2), the first-born, died of what clinically appeared to be the same condition. In Case 5 a first cousin died of what also was clinically the same condition. Fifteen of the babies were males; all the babies were the firstborn of their parents except one, and in this case the firstborn probably had the same condition. Three of the mothers have since borne children, none of which was abnormal. So far as our records show, there was no parental pathologic condition that could have had any bearing, though our records here are incomplete and probably faulty. In all of our cases the clinical picture was classical. How typical the cases were is evidenced by the fact that in a number of instances in which persons were under observation because of suggestive symptoms, no case was found. Moreover, none of a considerable number of spasmodic cases that were under continuous observation for a satisfactory period, and of which three came to operation, proved to be a hypertrophic case. There were no border-line cases in our series. Moreover, after a very considerable experience with this condition, it is my opinion that the questionable or border-line cases reported in the literature must in some measure at least be dependent on the absence of sufficient clinical material from which to obtain the same broad view of the subject to which we are accustomed in the commoner diseases.

The essential features of the disease have presented a striking uniformity. The onset has always been within a few weeks of birth (usually the second or third); it has usually been abrupt, always with sufficient definiteness to permit the time to be placed within a few days, usually within a day. The first symptom has been spitting up or vomiting, accompanied almost from the start with marked constipation and very soon with a startlingly rapid loss of weight. These symptoms have been uniformly progressive, and the progress has never been arrested for more than a few hours at a time. The symptoms have been unaccompanied by any abdominal distention, rigidity or other feature suggestive of a peritonitis. The lower abdomen has uniformly been found empty and passively retracted, the upper abdomen bulging and tense. Passing across the upper abdomen from under the left costal border toward the right, extraordinarily marked peristaltic waves have always been easily shown. If not present on examination, they could always be induced by giving the babe food or water. They were so marked that they could readily be demonstrated to the audience in a large clinical amphitheater. Finally, as previously stated, in eighteen of the nineteen cases of hypertrophic stenosis, the pyloric tumor could readily be palpated. The existence of the typical condition described does not predicate an absolute closure of the pylorus from the beginning of the symptoms. The tumor mass mechanically blocks the lumen; but it is tunneled by an intact mucous membrane, the closure of which is exactly analogous to the blocking of the urethra by a large prostate. As increasing tension in the urinary bladder may produce an overflow incontinence, so stomach contents may undoubtedly be forced through; and as catheterization may easily be possible with a large catheter, so a relatively large sound may readily be passed through the pylorus. In one case in which I divulsed the pylorus, a case in which the obstruction was complete, I was easily able to pass a fair-sized urethral sound. The tumor here was large and firm, of the typical kind. It is obvious, therefore, that life may be maintained beyond the period at which death might be expected to occur were the closure absolutely impervious. That bismuth may at times be forced

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[1] Richter, H. M.: Stenosis of Pylorus in Infancy, Surg., Gynec. and Obst., June, 1911.

TABLE OF TWENTY-TWO CASES OF CONGENITAL PYLORIC STENOSIS

Case No.	Hospital Record Number	Sex*	Born	Date of Operation	Remarks	Weight			Gain after Operation and Weight at Last Report
						At Birth Pounds	Maximum Pounds	At Operation Pounds	
1	St Marys Hospital†	♂	8/27/08	3/17/09	Vomiting began during first few days and became severe in third week.	8	....	8	45 lbs. at 4 years 10 months
2	Wesley 24,531	♀	4/10/09	5/22/09	Vomiting began in second week and in a few days became excessive.	8½	....	8	39 lbs. at 4 years ½ month.
3	Wesley 24,717 24,931	♂	3/ 3/09	6/10/09	Well for five weeks—began to vomit during sixth week.	......	....	8 3/16	Died one month after operation of a gastro-intestinal disturbance.
4	St. Luke's 56,252	♂	6/25/10	7/20/10	Began 3rd or 4th day and became excessive at the end of two weeks.	7 3/16	7 11/16	6½	39½ lbs. at 3 years 4 months.
5	St. Luke's 56,511	♀	7/ 5/10	8/ 4/10	Vomited once each on 10th, 14th and 18th days, and "everything" from 23rd day on.	8	8½	6⅞	38 lbs. at 3 years 3 months.
6	St. Luke's 58,914	♀	9/24/10	12/24/10	"Spitting up" from first few days; vomiting became excessive in 6th week.	9	10	7¾	9 lbs. 12 oz. 28 days after operation; 35 lbs. at 37 mos.
7	Wesley 30,698	♂	11/19/10	1/27/11	Began to vomit in 3rd week, and by 5th week was vomiting everything.	10	....	7	33 lbs. at 2 years 11 months.
8	Wesley 31,564	♂	2/14/11	4/ 4/11	Began "spitting up" during first few days, and vomited everything after 14th day.	10¾	11 3/16	8	37½ lbs. at 32 months.
9	Wesley 31,712	♂	3/14/11	4/13/11	Vomiting began during first few days and early became marked	8	8½	5¾	Died.
10	Wesley 31,970	♂	12/16/10	4/28/11	Vomiting began immediately after birth and became excessive during first week.	5¼	6 13/16	‡	After losing 4 oz., gained 21 oz. in 20 days; 30 lbs. at 30 months; 33 lbs. at 35 months.
11	Wesley 31,993	♂	3/17/11	5/ 4/11	Began during 4th week and vomited "everything" after 35th day.	7	7¾	5 13/16	26 lbs. at 2 years.
12	St. Luke's 65,219	♀	11/ 1/11	12/16/11	Began with spitting up on the 7th day; vomiting soon became excessive and expulsive; stools mostly greenish mucous.	10½	§	7½	26 oz. in first 53 days; 29½ lbs. at 23½ months.
13	Wesley 36,194	♂	2/ 6/12	3/16/12	Onset at 3 weeks.	8½	9	7	64 oz. in first 65 days; 25 lbs at 14 months.
14	Wesley 37,316	♂	4/ 9/12	6/ 9/12	Vomiting began in 3rd and 4th weeks. Progressively worse up to time of operation.	......	....	5⅞	Evisceration following removal of sutures on 4th day; child never reacted from shock, and died soon after leaving the hospital.
15	St. Luke's 68,743	♀	5/19/12	6/22/12	Vomiting began first week after birth, gradually increased and became profuse and expulsive	8¼	9	7½	6½ lbs. in 4½ months, 23 lbs. at 16 months.
16	Wesley 37,629	♂	5/25/12	6/30/12	Obstruction complete for 5 days preceding operation. No bowel movement.	8½	....	7 1/16	29 lbs. at 17 months.
17	Wesley 38,454	♂	6/15/12	9/ 3/12	Symptoms developed gradually in 2nd and 3rd week; gained weight slowly for 6 weeks; then lost; under observation 10 days before operation. Held its own for 5 days, then lost very rapidly, vomiting blood last 24 hours.	8	....	6¾	Gained rapidly from start. 21 lbs. at 8½ months.
18	Wesley 40,185	♂	12/10/12	1/ 8/13	Onset in 2nd week.	......	....	7 7/16	Died.
19	Wesley 40,343	♂	12/25/12	1/17/13	Vomiting began suddenly on 15th day, "as though pumped up;" apparently more than child took in. Thick yellow, never dark or green. Stools only a little black jelly.	9	‖	6 11/16	11 oz. in first 18 days; 18½ lbs. at 8 months.
20	Wesley 40,707	♂	12/10/12	2/12/13	Vomiting began at 4 weeks; in 2 weeks lost 28 oz.; in next 2 weeks, 23 oz. Vomited more than he took in.	7¾	9½	6 5/16	60 oz. in first 55 days; 21 lbs. 9 oz. at 10 months.
21	St. Luke's 78,171	♂	7/27/13	10/30/13	Vomiting began very suddenly in 5th week; excessive from the beginning.	7½	9	8½	Recent; gaining rapidly.
22	St. Luke's 79,165	♀	10/25/13	12/ 4/13	Began vomiting 10 days after birth; became excessive with great suddenness on 30th day.	7 14/16	8	6 11/16	Gaining rapidly.

*In this column ♂ stands for male and ♀ for female. †Green Bay, Wis. ‡Lost 4 ounces during next few days. §No increase. ‖Gained—no record of amount.

Summary: Operative Mortality, three in twenty-two cases; one death subsequent to operation. No recurrence of symptoms, and no postoperative sequelae in cases ranging up to 5 years of age. Without exception, the weight of the children subsequent to operation has been normal, or above the average weight of children of their age. Operation used: Case 16, divulsion of the pylorus; Cases 17 and 18, submucous pyloroplasty. The remaining cases were typical posterior gastrojejunostomies.

through, or that a suggestion of a milk stool occur, must therefore not rule out the diagnosis.

It is particularly important that the Roentgen ray, as a diagnostic measure, be limited to determining the rate of emptying the stomach, not the patency of the pylorus. To exclude a diagnosis of hypertrophic stenosis on the basis of the passage of bismuth is sure to lead to serious error. I am personally aware of two cases in which this error was made, and operation advised against. In both cases the diagnosis was later confirmed; in one by necropsy, in the other at the delayed operation, which failed to save the baby.

Carrying further the analogy to the mechanical conditions present in prostatic enlargement, it may be conceded that sufficient patency may persist to maintain life even after temporary total blocking has been evident. Only on this basis can we account for the recoveries that have been reported by competent observers. The recovery does not imply the disappearance of the tumor. When advocates of non-operative treatment admit that obstructive symptoms persist for years after the immediate dangerous symptoms subside, they tacitly admit the persistence of the cause of the obstruction. Heubner describes symptoms persisting into the third, fourth and seventh years of life. Recently much collateral evidence has pointed in the same direction. Wolbach performed a necropsy on a child 8 months of age that had been operated on at the age of 1 month for hypertrophic pyloric stenosis. The child was symptomatically cured during the intervening seven months, and the death was in no way associated with the original condition. The tumor found at the necropsy was apparently as large as at the time of operation. In an address before the Illinois State Medical Society, in May, 1913, Scudder showed roentgenograms of cases in which operation had been performed at varying periods previously in which he demonstrated that bismuth failed to pass through the pylorus, but passed by way of the new opening into the jejunum. It was evident that the pylorus had remained impassable. To any one familiar with the tendency of stomach contents to ignore the new opening and pass by way of the pylorus, when it possibly can, such roentgenograms are conclusive.

There is nothing, however, in the nature of hypertrophic stenosis that essentially predicates a permanent pyloric closure. I am not aware that any good reason has been given why these tumors should not ultimately disappear. They are not neoplasms, but simple muscular hypertrophies. The indication for operation is not strengthened by proving the permanency of the mass. The fact that it does not disappear quickly enough is the essential, absolute indication for surgical interference. Dr. James T. Case of Battle Creek, Mich., is now making Roentgen studies of my cases of varying ages, nine of which have been completed, and will shortly publish them. They will, I believe, confirm to a great extent Scudder's findings.[2]

Congenital hypertrophic stenosis of the pylorus presents, then, the following condition:

A mechanical intestinal obstruction of a high grade, or possibly complete, the mechanism of which is such that life may be prolonged for weeks, but that usually results fatally in from six to ten weeks. In a certain proportion of the cases in which recovery occurs, evidence of incomplete obstruction persists for months or years. In the spasmodic type of pyloric obstruction, complete recovery usually follows persistent treatment, but the condition at times resists treatment for so long a time as materially to endanger the child's life by interfering with its nutrition.

It is impossible to reconcile the conflicting ideas that prevail as to the death-rate of hypertrophic stenosis under non-surgical treatment. No large series has been treated non-surgically in America. The German statistics give the mortality as close to 20 per cent. Nearly all the British writers rate it high; but Hutchison, in 1910, reported a remarkable series of cases treated non-surgically, with results entirely different from all other observers, and hard to understand. In a series of seventeen cases in private practice there was no death; in sixty-four cases treated in hospital practice the death-rate was 78 per cent. I am unable to analyze his results and merely give them as they are published. The surgical statistics have given so high a death-rate that operative interference has often been declined in the past, even when the prognosis was otherwise admittedly bad. Up to five years ago the operative mortality was easily 50 per cent. of the cases reported, and in the unreported cases it was notoriously higher. Since then the increasing number of cases recognized in the earlier stages has given surgeons an opportunity to interfere before the child reaches a moribund state. The result is that a number of operators have been able to develop their technic to the point of securing results that serve at least to show that the condition is not inoperable.

In presenting this series of twenty-two cases, which is the largest heretofore published in America, I wish to bring out the facts, first, that the mortality has been reduced below that claimed by any method of non-surgical treatment, and, secondly, and of equal importance, that the ultimate condition of the patient is that of a normal person.

My mortality, as stated above, was 13.6 per cent. Of the twenty-two operations, nineteen were typical posterior gastro-enterostomies, with two deaths, a mortality of 10.5 per cent. On two babies I did a submucous pyloroplasty, and on one a divulsion of the pylorus. Of the three deaths that occurred, one was essentially a result of the child's condition, and represents an irreducible mortality that must prevail so long as patients are not early regarded as surgical cases. Two of the deaths were clearly attributable to faulty technic. In one an unsuccessful modified pyloroplasty necessitated an immediate gastro-enterostomy. The child was unable to stand the shock of the double operation. In the other case, through a misunderstanding, the sutures were removed on the fourth day; the wound opened up, and in the absence of one of the older members of the house staff the child was allowed to eviscerate itself. Neither death should have occurred. They represent the cost of developing new methods.

The second consideration in the question of operative interference is the immediate and ultimate condition of the child.

Of the nineteen patients who survived operation, one died of what was diagnosed as an acute food intoxication. The child lived in the crowded district immediately adjacent to the dispensary. During the hottest period of the summer, in August, it was brought back to the hospital less than a month after operation, with vomiting and diarrhea, and died after an illness of six days. A post-mortem was not permitted. Two of the seventeen cases had postoperative sequelae, necessitating reopening the abdomen.

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[2] I wish to acknowledge my great indebtedness to the management of St. Luke's Hospital for the free use of their Roentgen ray room and other accommodations for the purpose of this study.

My first patient developed an acute intestinal obstruction eight weeks after the primary operation. When the abdomen was opened, extensive adhesions were found, the nature of which I discussed in a former paper. The child recovered.

In Case 7 the patient[3] developed a volvulus of the entire small bowel, which was relieved by laparotomy.

These complications occurred in Cases 4, 1 and 7, respectively, and were reported in my first paper; no postoperative sequelae of any kind have developed in my last fourteen cases. The first patient was operated on five years ago, the others at intervals since. None has shown any postoperative sequel in the form of hernia, recurring obstruction or any other evidence of mechanical harm from the operation.

All of the eighteen living patients are now under observation, or have been up to within the past few weeks. After the first few days, during which there was usually a loss of several ounces, the gain in weight was pronounced and continuous. There was no exception to this rule. Probably because they were closely watched, fifteen of these babies, at ages varying from 8 months to 4 years and 10 months, weighed more than the normal average of children of their age, as given in the usual tables in use by pediatricians; one, Case 11, is practically normal, weighing 26 pounds at 24 months; and two are too recently operated on to determine the ultimate effect, but are gaining at the rate of 1 to 2 ounces per day.

There was usually some vomiting during the first week following operation. In nearly all cases vomiting ceased before the patient left the hospital, and without exception vomiting has not recurred in any case to date. There have been no intestinal disturbances in any case suggestive of a disturbed digestion. No chemical studies of the stools have been made in my cases, but a sufficient number of such studies have been made to justify a positive statement to the effect that no change in digestion capable of demonstration is made.

PAROXYSMAL HEMOGLOBINURIA

WITH REPORT OF A CASE

W. W. YOUNG, M.D.

BOSTON

History.—J., a man aged 45, Swedish, a sheet-metal worker, entered the Peter Bent Brigham Hospital, Sept. 11, 1913, complaining of chills, fever and bloody urine. The family history was unimportant as related to the present illness. The patient had interstitial keratitis at 3 years (?), and measles and small-pox as a child, but no other infectious diseases in childhood. The patient came to the United States nineteen years ago and served in the Navy during the Spanish-American War. He has been a sailor for several years since, usually serving as engineer on a private yacht. Patient has not been south of New York for twelve years. Ten years ago he had an attack of pneumonia; there was no residue. Four years ago in September, patient had a sudden chill, followed in one hour by fever and sweating. Following this attack, he passed dark urine for from six to eight hours. The next day he felt perfectly well. He had no more attacks that year. During the following fall and winter there were five or six attacks of a similar nature, and two years ago and last year patient had four or five attacks similar in every respect to those previously experienced. These attacks always followed some slight exposure to dampness or cold. He would have a chilly sensation, his legs would become numb and cold, and then a shaking chill would follow. These chills varied in intensity. With each attack he passed dark urine. In the spring of 1913 he experienced another attack. Quinin has been taken in large doses but produces no effect. Patient denies lues. His habits were unimportant.

Present Illness.—September 10, at 9 a. m., patient was standing on the street and felt chilly. At 10 a. m. an attack similar in all respects to the preceding started with a chill, followed by fever and sweating at 11 a. m. with the passing of dark urine.

Physical Examination.—This shows a well-built white man, lying quietly in bed. The pupils of the eyes are irregular, being the shape of apple-seed. The lower iris appears to be drawn into a scar. The corneas are cloudy. The teeth are in good condition. The throat is negative. There is no general enlargement of the lymph-nodes. The chest and lungs are negative. Both heart-sounds are heard and normal; there are no murmurs. The pulse is of good quality, regular and normal. The systolic blood-pressure is 118, diastolic 68. The abdomen is negative; spleen is not palpable; liver shows no enlargement; there are no masses and no tenderness. The extremities show no scars or edema. The deep and superficial reflexes are elicited and found normal.

Clinical Findings.—Blood: Hemoglobin (Sahli); 90 per cent.; white blood-cells, 8,600; no malarial parasites; differential count, normal; platelets, 400,000 per cubic millimeter. The stool contains no blood or parasitic ova, and is essentially negative. The urine is amber, clear and shows no albumin, blood or casts. The Wassermann reaction (blood-serum) is positive.

Course.—September 15: Patient had an attack of chills followed by fever and sweating. No malarial parasites are found. Urine is port wine color and contains much albumin and many pigment casts, but no blood. Spectroscope shows bands of oxyhemoglobin.

September 16: Patient's feet were soaked in ice-water for twenty minutes. One hour later hemoglobin was demonstrated in the urine. There was no chill or fever.

September 17: Neosalvarsan, 0.6 gm., was administered intravenously.

September 18: Wassermann reaction (blood-serum) was positive.

September 23: Patient had one of his attacks at 9 a. m.

September 24: Neosalvarsan, 0.6 gm., was administered intravenously.

September 25: Wassermann (blood-serum) was positive.

September 28: Patient had another attack, much less severe. There was no chill and no fever.

September 29: The feet were soaked in ice-water twenty minutes. Urine exhibited hemoglobin. Patient was discharged to return at intervals for treatment.

October 2: Salvarsan, 0.4 gm., was administered intravenously.

October 16: Salvarsan, 0.4 gm., was administered intravenously.

October 24: Patient reported a paroxysm, less severe than former ones.

November 12: Salvarsan, 0.4 gm., was administered intravenously.

The patient is now on intramuscular injections of salicylate of mercury.

TEST FOR PATHOLOGIC FRAGILITY

Time	Patient's Corpuscles Percentage Salt Solution						Control Corpuscles Percentage Salt Solution					
Started ..	0.7	0.6	0.5	0.4	0.3	0.2	0.7	0.6	0.5	0.4	0.3	0.2
4:10	0	0	0	0	0	*	0	0	0	0	0	*
4:20	0	0	0	0	0	+	0	0	0	0	0	+
4:30	0	0	0	0	†	+	0	0	0	0	†	+
5:00	0	0	0	0	+	+	0	0	0	0	+	+
6:00	0	0	0	0	+	+	0	0	0	0	+	+

* Hemolysis.
† Partial hemolysis.

Additional Data.—Just after the onset of an attack the patient's blood was drawn from the median basilic vein. On centrifugalizing the serum was deeply tinged with red and showed the characteristic bands of oxyhemoglobin with the spectroscope, thus demonstrating an actual hemoglobinemia.

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[3] By an error referred to as Case 8 in my original paper.

During an attack the patient's blood was drawn into citrate-salt solution to prevent clotting. The corpuscles were then centrifuged and washed. These were suspended in various strengths of salt solution paralleled by control in order to determine the presence of pathologic fragility; with the result which is tabulated.

The conclusion was drawn that there probably existed no very definite pathologic fragility in the cellular elements of the blood.

Donath and Landsteiner,[1] in 1906, studied a case of paroxysmal hemoglobinuria and found that they could reproduce *in vitro* what had occurred *in vivo.* They found that they could hemolyze the patient's corpuscles with the patient's serum when the two in contact were cooled to 0 C. (32 F.) for half an hour and subsequently incubated at 37 C. (98.6 F.) for three hours. Cooke,[2] in a series of exhaustive experiments, found the same true of his patient. He modified the original Landsteiner technic as follows: Instead of the subsequent incubation for three hours, he found that by careful heating over a burner he could obtain hemolysis with subsequent incubation for half an hour. The blood of the patient, J., was taken from the median vein and caught in citrate-salt solution (1 part of solution to 4 of blood) and treated as follows:

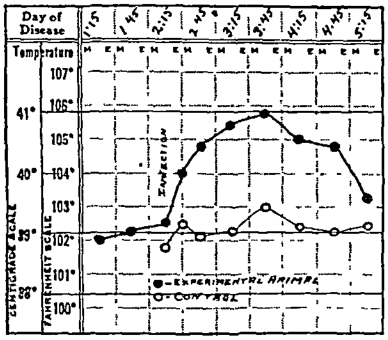

Chart 1.—Temperature curves of rabbit injected with oxyhemoglobin and of control rabbit injected with salt solution.

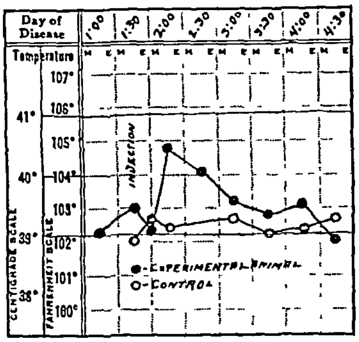

Chart 2.—Temperature curves of rabbit injected with oxyhemoglobin and control receiving no injection.

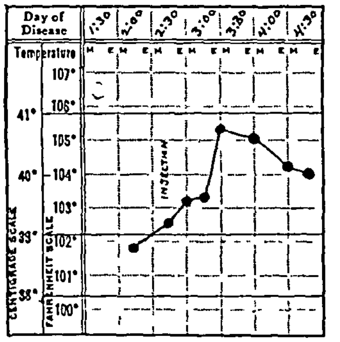

Chart 3.—Temperature curve of rabbit injected with oxyhemoglobin. No control.

PATIENT'S BLOOD

Cooled to 0 C. for half an hour. No hemolysis.

Heated and incubated at 37 C. for half an hour. No hemolysis.

Cooled to 0 C. for half an hour and heated and incubated at 37 C. for half an hour. Hemolysis almost complete (whole blood).

Patient's washed corpuscles (suspended in normal salt solution) cooled to 0 C. for half an hour and heated and incubated at 37 C. for half an hour. No hemolysis.

CONTROL BLOOD

Cooled to 0 C. for half an hour. No hemolysis.

Heated and incubated at 37 C. for half an hour. No hemolysis.

Cooled to 0 C. for half an hour and heated and incubated at 37 C. for half an hour. No hemolysis.

We also found, as others before had found, that the patient's serum would hemolyze the corpuscles from another person, while the serum of the other person would not hemolyze the patient's corpuscles.

PATIENT'S SERUM AGAINST CONTROL'S WASHED CORPUSCLES

Washed corpuscles, cooled to 0 C. for half an hour and heated and incubated at 37 C. for half an hour. Hemolysis complete.

CONTROL'S SERUM AGAINST PATIENT'S WASHED CORPUSCLES

Washed corpuscles cooled to 0 C. for half an hour and heated and incubated at 37 C. for half an hour. No hemolysis.

No attempt was made to do this quantitatively but merely to establish this case as a clinical entity by using the reaction diagnostically.

The occurrence of paroxysms of hemoglobinuria, the absence of malarial organisms, the increase in blood platelets, the hemoglobinuria after cooling the extremities, and finally the demonstration in the blood of an autohemolysin without increased corpuscular fragility seem to warrant the diagnosis of paroxysmal hemoglobinuria, so-called.

As to the nature of the autohemolysin, Cooke,[2] in his most admirable work, established the following in his case: 1. An autohemolysin exists. 2. The reaction follows the Ehrlich theory of complement—antibody-cell combination. 3. The mode of action is as follows: The antibody may be taken up from inactive serum (patient's) in the cold, the combination with the corpuscles being rather unstable; complement is absorbed from active serum together with antibody in the cold; complement unites with antibody only under the influence of cold; red blood-cells exposed to inactive serum are more or less resistant to hemolysis on account of complementoid present. He concludes that antibody unites with corpuscle and complement with antibody only under the influence of cold, the lytic action being exhibited on subsequent elevation of temperature.

SYMPTOMATOLOGY

The paroxysms exhibited by our patient resemble in almost every respect those seen in malarial infections. Browne,[3] in experiments on rabbits, was able to produce paroxysms resembling those seen in malarial infection by injections of hematin intravenously. Inasmuch as the paroxysms of the hemoglobinuric so closely resemble malaria, it was thought that perhaps here, too, the phenomena were due to the releasing of blood pigment into the menstruum. To test this theory, several rabbits were injected intravenously with hemoglobin. Enough rabbit's blood was drawn to give about 1.5 c.c. of corpuscles. The blood was defibrinated, centrifuged, and the corpuscles laked with sterile distilled water and made up with sterile salt solution. This was controlled.

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[1] Donath and Landsteiner: Ztschr. f. klin. Med., 1906, No. 58, p. 173.

[2] Cooke: Am. Jour. Med. Sc., August, 1912, p. 203.

[3] Browne: Jour. Exper. Med., 1912, xv, 579.

by examination with the spectroscope, and was used for injection. The controls received injections of normal salt solution. No attempt at dosage was made, but this amount was taken arbitrarily.

The reaction produced was as follows: The animal when first injected was restless, soon becoming droopy, crouching in a corner with its ears back and hair erect. The vessels of the ears were constricted and the ears cold. This lasted for from fifteen minutes to half an hour and was followed by a period when the peripheral vessels were dilated and the ears warm. The temperature began to rise immediately after injection and reached a maximum in from half an hour to one hour, the elevation lasting for irregular periods. This is shown in the accompanying charts. Some animals reacted better than others. In no instance, even on increasing the dosage greatly, could anything simulating the shaking chill be produced. It seems suggestive, though not conclusive, that the loosing of hemoglobin into the blood-stream produces the reaction seen in hemoglobinurics and not the factor, whatever it may be, which causes the hemolysis. The fate of the hemoglobin after injection cannot be determined. It may perhaps undergo some change in the body before producing the reaction.

ETIOLOGY

Cooke[2] states that, since the introduction of the Wassermann reaction, 90 per cent. of hemoglobinurics give a positive reaction. Previous to that time a history or stigmata of lues could be obtained in many instances. Barrett and Yorke[4] state that they could find in the blood of persons infected with the organism of malarial fever no such autohemolysin as has been demonstrated in the serum of the hemoglobinuric. Landsteiner[1] found in six out of sixty-five cases of general paresis that the blood of the individual contained an autohemolysin giving the reaction seen in hemoglobinurics. Several patients with syphilitic involvement of the central nervous system, including tabes and cerebrospinal syphilis, were examined here and some found to possess in their blood-serum an autohemolysin. When such a person had his feet soaked in ice-water for twenty minutes, no hemoglobinuria resulted. This suggested the possibility that the hemoglobinuric might possess a kidney with an increased permeability; witness the albumin and casts at the time of a paroxysm. To determine this point, the various renal function tests were tried.

In the case of J., phenolsulphonephthalein (1 c.c. standard solution given intramuscularly) resulted in an excretion of 55 per cent. the first hour, and a total excretion the second hour of 80 per cent.

The total amount of potassium iodid, 10 gm., was excreted in forty-eight hours.

The sodium chlorid output on the "house diet" (from 7 to 9 gm. of sodium chlorid) was 7.4 gm.; plus 10 gm. of sodium chlorid, it was 16.4 gm. the first day, 14.7 gm. the second day, and 10.6 gm. the third day.

The total nitrogen output on the "house diet" was 15.9 gm.; plus 20 gm. of urea it was 26.8 gm. the first day and 18.5 gm. the second day.

The phenolsulphonephthalein and potassium iodid were certainly put out in excess of normal, whereas the salt and nitrogen were at the upper limit of normal. It is suggestive, though we can draw no definite conclusions from one case, of a certain degree of hyperpermeability.

On the whole, a luetic rather than a malarial origin seems the more plausible in view of our present knowledge.

TREATMENT

Pringsheim,[5] by the intramuscular injection of cholesterin emulsions was able to hold the paroxysms in abeyance in one patient. Unfortunately, he lost sight of his patient and could not follow up his admirable start. In the case of J., addition of cholesterin to the serum *in vitro* inhibited the hemolysin exhibited by the control without cholesterin, owing probably to its anticomplementary properties. A vigorous antisyphilitic regimen seems the much more plausible course in view of the positive Wassermann. This was undertaken in the case of J. No case heretofore has been followed up to the point at which the Wassermann has become negative. At present, the Wassermann in this case is positive, though titration shows it to be weaker than at the first examination. The paroxysms have grown progressively less frequent and less severe. The case, however, will have to be followed up to the point of the Wassermann's becoming negative.

SUMMARY

We have before us a patient in whose blood-serum, either constantly to act on exposure to cold or else brought into existence by cold, exists a substance which hemolyzes the red blood-cells. This gives rise to a hemoglobinemia which in turn provokes the phenomena of a paroxysm very much like that provoked by the loosing of hematin by the action of the malarial parasite. The excretion of the hemoglobin in the urine by the kidneys is one of the most striking of the phenomena and gives the disease its name. This autohemolytic substance in the blood is in all probability the result of infection by the *Spirochaeta pallida*. On the other hand, the possibility exists that the same substance which is produced by the organism of syphilis and to which we give the name antibody and which produces fixation of complement, thus giving a positive Wassermann, is produced by some other agency in the disease under discussion. Thus there may exist a positive Wassermann without syphilis. The existence of this same substance, which gives rise to hemolysis, in parasyphilitics, so-called, makes it highly probable that the etiologic factor here, too, is syphilis. It is quite possible that hemolysis may take place in the menstruum of the parasyphilitic and that it is an increased permeability in the hemoglobinuric which gives rise to actual hemoglobinuria.

It remains to be seen whether or not specific treatment will help clear up the difficulty of etiology, and this I shall report later.

697 Huntington Avenue.

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[4] Barrett and Yorke: Am. Jour. Trop. Med. and Hyg 1909, iii, 152.

[5] Pringsheim: München. med. Wchnschr., 1912, p. 1757.

Early Questions.—Another unfortunate tendency among the Arabs was their liking for the discussion of many trivial questions. Hyrtl, in his volume on Arabian and Hebrew Words in Anatomy," declares that it is almost incredible how earnestly some trivial questions in anatomy and physiology were discussed by the Arabs. He gives some examples. Why does no hair grow on the nose of men? Why does the stomach not lie behind the mouth? Why does the wind-pipe not lie behind the esophagus? Why are the breasts not on the abdomen? Why are not the calves on the anterior portion of the legs? Even such men as Rhazes and Avicenna discussed such questions.—Walsh, Makers of Medicine.

CORPUS LUTEUM ORGANOTHERAPY IN CLINICAL PRACTICE

WITH REPORT OF A CASE OF BILATERAL SALPINGO-OOPHORECTOMY IN WHICH THE ADMINISTRATION OF CORPUS LUTEUM EXTRACT WAS FOLLOWED BY THE REESTABLISHMENT OF MENSTRUATION

WALTER T. DANNREUTHER, M.D.
Surgeon to St. Elizabeth's Hospital and St. Bartholomew's Clinic
NEW YORK

Recent experimental and clinical investigations have determined and established the following important facts:

1. The human ovary has an internal secretion.
2. *This internal secretion dominates menstruation* and maintains pregnancy during the early months.
3. Corpus luteum is the structure chiefly concerned and the probable source of the internal secretion.
4. The corpus luteum of pregnancy is more stable than that of ovulation.
5. Corpus luteum has a selective action on the endometrium and prepares the uterine mucosa for the reception of the ovum.
6. The acme of development of corpus luteum is synchronous with the onset of menstruation.
7. There is a distinct relationship between corpus luteum and the other internal secretory structures of the body.
8. Removal of all lutean tissue is followed by cessation of the menstrual flow.
9. Animal corpus luteum, when administered by the mouth in average doses, is non-toxic.

For many years, the elaboration of an internal secretion by the human ovary was a much-mooted and disputed question, and it was not until after the publication of Fraenkel's masterly paper in 1903 that this theory was accepted as a physiologic truth. Fraenkel's experiments and deductions were later substantiated by other investigators, interest in the possibilities of ovarian and corpus luteum organotherapy being greatly stimulated in consequence. That the latter is of immense practical value, several clinical workers have now demonstrated beyond all question.

OVARIAN EXTRACTS UNSATISFACTORY

With the introduction to the profession of other organic extracts as therapeutic adjuncts in the treatment of disease, animal ovarian extracts were for a time extensively employed for a variety of gynecologic ailments. Unfortunately, however, in the experience of many, including myself, the use of these ovarian preparations proved a partial or complete failure in so many instances that their popularity soon waned. Their clinical inefficiency was indeed disappointing. The chief faults empiricism manifested were (1) in disregard of the fact that corpus luteum is the structure from which the internal secretion of the ovary is derived, as suggested by its histologic structure (large epithelial cells with pale staining nuclei, lying in close approximation with numerous small, thin-walled blood-vessels, characteristic of *the organs of internal secretion*); (2) in failure to exercise proper discrimination in the selection of cases (the best results are to be expected in those conditions which are due to deficient and not to excessive ovarian activity); and (3) in administration of doses (of the ovarian preparations) that were entirely inadequate. In other words, a corpus luteum rather than an ovarian extract should be used, cases must be carefully selected, and the dose should be regulated according to the individual patient and the toleration of her circulatory apparatus.

INDICATIONS FOR THE USE OF CORPUS LUTEUM EXTRACT

Those who have employed corpus luteum (the fresh yellow body) or a desiccated extract of it, using proper discretion, have found that it is much more potent than the ovarian preparations and that its administration in suitable cases is followed by striking and gratifying results. The particular conditions for which it will be found serviceable and to which its use should be limited are: (1) functional amenorrhea or scanty menstruation; (2) dysmenorrhea of ovarian origin; (3) manifestations of physiologic or artificial menopause, such as nervous or congestive disturbances of reflex origin (hot flashes, psychoneuroses, etc.); (4) "neurasthenic" symptoms during menstrual life; (5) sterility, not due to pyogenic infections or mechanical obstruction; (6) where the function of one ovary is impaired, or one ovary has been removed, and the compensatory activity of the other is insufficient; (7) repeated abortions, not due to disease or mechanical factors, and (8) hyperemesis in the early months of pregnancy.

It seems almost superfluous to mention that it would be useless to prescribe corpus luteum in cases such as amenorrhea due to extreme anemia, dysmenorrhea due to cervical stenosis, or all cases of sterility, but it is a fact that otherwise discerning practitioners have prescribed it for diverse gynecologic conditions with an equal disregard of its indications and without exercising their good judgment. Therefore, additional emphasis on the necessity for the proper selection of cases is essential in order that this useful preparation may not be unjustly discredited.

CLINICAL OBSERVATIONS

In a paper presented before the Section on Obstetrics and Gynecology of the American Medical Association, Burnam,[1] gives a comprehensive review of previous literature, and a detailed account of clinical experiences, in conjunction with Kelly, with corpus luteum. They were among the first in this country to employ it extensively in actual practice. In large part, my own experience with corpus luteum therapy corroborates Burnam's observations, but there are several additional phenomena, which he failed to mention, that I have noted and that seem to be of major importance. I agree with him that (1) animal corpus luteum, either fresh or as an extract, when administered by mouth in average doses, is non-toxic; (2) slight gastric disturbance occurs occasionally, but soon disappears; (3) this agent decreases blood-pressure; (4) a desiccated extract is more satisfactory and convenient than the fresh yellow body, and (5) it should be used in comparatively large doses. In addition to the foregoing, I have observed that (1) at first, patients taking corpus luteum often complain of vertigo, but this rapidly disappears; (2) toleration is soon established; (3) *its physiologic action does not resemble that of* adrenalin and it does not elevate blood-pressure, as some writers have asserted (Wilmer Krusen and others); (4) the pulse-rate is usually increased; (5) it is of the utmost importance to employ an extract obtained from the ovaries of pregnant animals only, and (6) constant supervision of the blood-pressure of patients taking corpus luteum is imperative.

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[1] Burnam, Curtis F.: Corpus Luteum Extract with Suggestions as to Its Use in Gynecologic Practice, THE JOURNAL A. M. A., Aug. 31, 1912, p. 698.

IMPORTANCE OF USING AN EXTRACT OBTAINED FROM THE OVARIES OF PREGNANT ANIMALS ONLY

Many of the large pharmaceutical manufacturers are now marketing preparations of corpus luteum, but these vary to such an extent regarding their source, method of preparation and nomenclature that another element of confusion is created. A distinction should be made between corpus luteum (the fresh yellow body), ordinary desiccated extracts and those made from the ovaries of pregnant animals exclusively. The use of fresh corpus luteum, which was formerly fed to patients as a salad or sandwich in large and uncertain doses, has now been discontinued, principally because the fresh glandular substance is very delicate, easily affected by atmospheric conditions and chemicals, and the dosage is not always identical.

Many firms are producing a desiccated extract, naming their preparations appropriately but not uniformly. They are known as lutein, corpus luteum extract, extract corpora lutea, etc., and are all obtained from the ovaries of cows or sows. On personal inquiry, only one of the larger firms would give a positive assurance that the animals from which the extract was derived were pregnant ones only. I have used, to the practical exclusion of all others, an extract obtained from pregnant cows, and although it cannot be accurately assayed, this preparation represents approximately six times the weight of the moist glandular substance: 5 grains of the extract is equivalent to 30 grains of the fresh yellow body.

One firm markets its preparation in the form of compressed tablets of 20 grains each, while others dispense theirs to the druggists in cartons. The dose of most of these products is said to be 20 to 120 grains three times daily, the manufacturers asserting that such quantities may be taken with safety. But when the extract is derived from pregnant animals such dosage is excessive. One factor of importance in the lack of uniformity in the clinical results of many observers is probably a non-appreciation of the relative variations in activity in different corpus luteum preparations, depending on whether they are made from the ovaries of pregnant animals or from all ovaries indiscriminately. A properly made extract will often prove of material benefit in a case in which large doses of an ordinary extract have failed to relieve.

DOSAGE

I prescribe 5-grain capsules three times a day and have seldom had occasion to increase this quantity, although 10-grain doses have been necessary in certain instances. The potency of such amounts is almost a verification of the source of the extract. Under no circumstances would I prescribe the dosage that Burnam recommends, if it were certain that all extracts were made from the ovaries of pregnant animals. I have nearly always observed a reduction of blood-pressure after a week's use of the 5-grain doses, and whenever the pressure drops too rapidly the patient is ordered to discontinue its use temporarily. Before the physician gives a patient corpus luteum he should take a careful sphygmomanometric reading, and weekly readings thereafter. If the blood-pressure falls as much as 15 mm. the therapy should be stopped until 10 mm. of this loss has been recovered, when it may be cautiously resumed. At times, however, a decrease of even 15 mm. of blood-pressure would be beyond the limit of safety, as it should never be permitted to fall below 90 mm. Hg under any circumstances. If these principles are accepted as a guide, corpus luteum organotherapy will not be followed by any untoward effects on the patient's circulatory apparatus. Another point of importance is the necessity for always getting a comparatively freshly made extract. I would place the limit of time on its reliability after manufacture at about three months.

PERSONAL EXPERIENCES

The cost of corpus luteum extract somewhat precludes its utilization in dispensary practice, so that the opportunities for its employment are to a certain extent restricted. My personal experience includes about eighty carefully selected cases, the greater number of which were encountered in private practice, and with few exceptions the results have been very encouraging.

All are familiar with the slightly obese, pale and anemic type of young woman, who soon after puberty consults the physician because of headaches, malaise, nervousness, acne vulgaris, constipation and scanty menstruation. While proper hygienic measures, arsenic and iron are of course of value, the conjoint administration of corpus luteum extract apparently promotes the menstrual flow and has a salutary effect on the general economy. In addition, I have frequently noted a loss of the excess in weight and a marked improvement in tissue tonicity in these patients.

Cases of dysmenorrhea due to functional ovarian deficiency have almost invariably been relieved by corpus luteum. I have seen a number of women suffering from this condition who had previously taken an ordinary corpus luteum extract without benefit, but who were subsequently relieved by an extract made from the ovaries of pregnant animals.

Climacteric symptoms, such as hot flashes, psychoses. vesical irritation, etc., due either to the physiologic or artificial menopause, may be prevented or readily controlled. In fact, the results in these cases are most striking of all. The efficiency of corpus luteum in such conditions has been demonstrated repeatedly, and it is a source of great satisfaction to both patient and physician to have these distressing symptoms promptly relieved, particularly after hydrotherapy, the valerianates, bromids, etc., have proved of no advantage. I would urge its administration as a routine measure in all cases approaching the menopause, and after hysterectomy and oophorectomy, partial or complete. In two cases of pruritus vulvae, associated with the menopause, the itching was so quickly alleviated by corpus luteum that it would almost indicate a selective action on the external genitalia.

Patients complaining of headaches, neuromuscular weakness, mental irritability, insomnia and other variable and inconstant subjective symptoms, and in whom no pathologic cause can be determined, are frequently seen. Such instances of so-called "neurasthenia" occurring in women during menstrual life are but vague entities, to say the least, and are often really reflex manifestations of menstrual disturbances. It has recently been my privilege to observe an instructive case in this connection. The patient was a young woman, aged 25, in excellent general health. She had had one miscarriage four years before I saw her, bore one child a year later and had another miscarriage about a year after the child's birth. After both miscarriages she was curetted, and since the last curettage menstruation was scanty and body weight increased, and she became nervous, morose and irritable. Pelvic examination revealed nothing abnormal to me at this time, notwithstanding which she was subjected to laparotomy for prolapsed ovary (?) by her physician. After this, her condition become somewhat improved for a short time, probably due to the psychic effect of the operation, but she soon lapsed into her former state. Two other gynecologists were then consulted, both of whom suggested "corpus luteum." The preparations prescribed failed to help her and her condition remained about the same until a short time ago, when she consulted me and the use of an extract made from pregnant animals' ovaries was advised. From that time on, she began to improve and all her unpleasant symptoms gradually cleared up. In short, this patient was a healthy, well-nourished young woman, in possession of normal pelvic organs, whose symptoms, attributable only to menstrual disturbance, were entirely relieved by a proper extract of corpus luteum, after other extracts were of no avail.

Most cases of sterility in women are due to gonococcal or other pyogenic infections, cervical stenosis or some other local cause. Occasionally, however, examination of a patient shows nothing pathologic in the pelvis. Under such circumstances it would seem that corpus luteum should be of decided benefit, because of its theoretical promotion of pelvic hyperemia. For example, a married woman of 31, in apparent good health, sought advice in March, 1913. She complained of scanty menstruation, prolonged intervals and sterility. She had two children, but was anxious to conceive again. Corpus luteum extract, in full doses, promptly increased the quantity of her flow and reduced the intermenstrual interval to about twenty-six days. She became pregnant the following July. This, of course, may have been simply coincidence, and I have not had the opportunity to prove otherwise by extensive experience with this class of cases, but it would appear that corpus luteum is not wholly without merit in enhancing the possibility of pregnancy in sterile women, particularly if used in conjunction with intra-uterine negative galvanism.

When one ovary has been destroyed or removed, or its function impaired, there usually occurs a compensatory activity in the remaining or healthy ovary. As a rule, this is sufficient to counterbalance the deficiency, analogous to the ability of one kidney to increase its functional capacity under similar circumstances. But at times, these supposedly and apparently healthy ovaries, for one reason or another, are incapable of assuming this added burden and fail to fulfil their mission. Corpus luteum is then indicated as a supplementary aid, and the results therefrom in these cases, with one exception, have been excellent. This exception was a young woman, a schoolteacher, on whom I operated some three years ago and removed a cirrhotic and hypertrophied ovary, containing a distinct cavity, lined with a false membrane, which had previously been the seat of an ovarian apoplexy, that had undergone spontaneous rupture and absorption. This patient exhibited all the nervous manifestations of an artificial menopause soon after her operation. She was put on corpus luteum extract and took it for a long time, but without effect, notwithstanding that her remaining ovary and all her other pelvic organs seemed to be normal at the time of operation. Her condition at the present time is but little improved, and this improvement followed the use of bromids and large doses of strychnin. In brief, the use of corpus luteum proved of no avail whatever, and this case constitutes a conspicuous failure.

One of two cases of repeated abortion, in which the cause was inexplicable, was carried to full-term labor by the use of corpus luteum extract. This patient had had eight abortions in six years of married life. She became pregnant in February, 1913, and was delivered of a healthy child the following November.

Corpus luteum will also be found of service in allaying the hyperemesis of early pregnancy. It has stood me in good stead on several occasions.

CAN A CORPUS LUTEUM EXTRACT REPLACE THE NORMAL FUNCTION OF THE OVARY?

Burnam stated in his paper[1] that he had "attempted to produce menstruation in three patients in whom the ovaries had been removed but the uterus left in. All three were given enormous quantities of luteum, but not one of them showed any sign whatever of menstruation." From this he concludes, that "when given by the mouth, even in very large quantity, the corpus luteum of the sow cannot entirely replace the normal function of the ovary of the woman, so far as producing menstruation is concerned." I have been fortunate enough to encounter a case controverting this evidence, and would suggest that had Burnam employed an extract prepared from the ovaries of pregnant animals only, he might have been favored with greater success in the cases he mentioned.

MENSTRUATION REESTABLISHED BY CORPUS LUTEUM EXTRACT AFTER BILATERAL SALPINGO-OOPHORECTOMY

Patient.—E. V. N., single, aged 22, was seen Sept. 25, 1912. Family history was negative. Patient's general health had always been good. Menstrual history was normal, except for one abortion a year ago. Last menstrual period occurred three weeks before patient was seen.

Present Illness.—About July 24 she noticed an indefinite pain in the left iliac region, which became progressively worse, and was accompanied by a thick, yellow vaginal discharge. There were no urethral symptoms. She then consulted a physician who, at the end of a week's treatment, advised her removal to a hospital. Her evening temperature was usually about 104 F., abdominal pain was severe, and prostration was marked. A general surgeon was called and advised immediate operation, but the patient and her attending physician refused permission. The patient remained in the hospital under palliative treatment and was discharged at the end of three weeks. She was told that her abdominal trouble was cured, but that her "gonorrhea" still required treatment. This was carried out by her physician in his office, but as some abdominal pain persisted and the discharge continued to be profuse, at the end of four weeks more she consulted still another physician, who referred her to me.

Physical Examination.—This showed a well-nourished and developed young woman. Temperature 99.6 F. (5 p. m.), and pulse 88. Heart and lungs normal. The vagina was filled with thick, yellow mucopus. Bimanual examination disclosed an immovable, anteverted uterus, the displacement being produced by what seemed to be two enormous pus tubes, matted together. The whole pelvis and its contents were agglutinated by a mass of plastic exudate, partially organized, which resulted from the concomitant peritonitis. Smears taken from the urethral meatus, vaginal orifice, and cervical canal all showed large numbers of intracellular and extracellular Gram-negative diplococci.

The preoperative diagnosis was gonorrheal endometritis and urethritis; bilateral pyosalpinx, with pelvic peritonitis.

The patient was ordered to rest for a few days, take frequent copious hot douches, keep the bowels well open, and an ice bag on the abdomen. Tampons of iodin-glycerin 10 per cent. were inserted in the vagina every other day until October 4, when I performed a laparotomy.

Operation.—The abdominal section was somewhat difficult because of the dense adhesions encountered. When the peritoneum was opened and omental adhesions separated, two large tumors, that looked not unlike baseballs, wedged in between the uterus and rectum, presented. These were what had been diagnosed as pus tubes on bimanual examination, but which were now recognized as ovaries. The preoperative diagnosis was not entirely incorrect, however, as a picturesque sausage-shaped pyosalpinx was curled above and around each one. The two ovarian tumors were cemented together posteriorly and were strongly adherent at the bottom of the iliac fossae. They were finally delivered unbroken, a double salpingo-oophorectomy was done, and the abdomen closed without drainage. The uterus was not curetted. The postoperative diagnosis was bilateral ovarian abscess and pyosalpinx.

Progress of the Case.—Recovery from operation was uneventful. As soon as the patient left the hospital, treatment for the gonorrheal endometritis and urethritis was instituted. These were completely cured in about four months, microscopic examination of a number of consecutive specimens having been negative. The patient was given 5 grains of corpus luteum extract, in capsules, three times a day, to prevent the occurrence of the unpleasant symptoms incident to the menopause, and not because the reestablishment of menstruation was anticipated. Sphygmomanometric and pulse readings were taken weekly. When the extract was commenced, Oct. 27, 1912, the pulse-rate was 90 and the blood-pressure 114. December 8, pulse 104 and blood-pressure 108. December 14, pulse 92, and blood-pressure 98. The corpus luteum was then stopped, and on December 21, after a week of rest, the pulse was 96 and blood-pressure 118. After this prompt blood-pressure recovery the luteum was begun again. On Jan. 2 and 3, 1913, the patient experienced slight backache and a sensation of fulness in the pelvis, and on January 4, she began a menstrual flow, which lasted three days. This flow was constant, although somewhat scanty. On January 29, she menstruated again for three days, more profusely than the first time. On February 26 and March 29, the duration of the flow was prolonged for five days each time. The capsules had been taken regularly until the latter date, except for short intervals necessitated by decreased blood-pressure. After the fourth menstruation, however, the patient was instructed to take the luteum only during the ten days immediately preceding the expected date of menstruation, as it was evident that the menstrual function was becoming firmly reestablished. That this view was justified was clearly shown by a report from the patient the following August, that she had menstruated for about five days every thirty days. She never suffered from any reflex nervous, sexual, or gastro-intestinal disturbances, and has apparently been well since her operation. She was last seen in October, 1913, and, as she expressed it, "was menstruating as regularly as before operation."

The specimens from this case were enucleated intact and have been preserved, and close inspection demonstrates beyond all question that no ovarian tissue was left in this patient's pelvis. I think that especially these two ovaries, in which all parenchymatous tissue has been destroyed and replaced by pus, with the integrity of their capsules preserved, are not without interest. Permanent continuance of regular menstrual periods in this patient, until she reaches the natural menopause age, cannot be predicted with positive assurance, but the recurrence of menstruation for even one year and the absence of unpleasant reflex symptoms are certainly encouraging. The only systemic disturbances from the organotherapy in this case were mild headache and vertigo for a few days; these quickly disappeared as toleration was established.

In addition to these interesting features, this case is an instructive one in other respects. This was evidently an extremely virulent gonococcal infection in the beginning and the patient was lucky to have escaped operation when the micro-organisms were most active, but she should certainly have had the benefit of operative interference as soon as the acute symptoms subsided. That was the ideal time, as the destruction of tissue was probably not as extensive then as it was a few weeks later. She was also fortunate to have escaped curettage or other intra-uterine meddling for the cure of her "gonorrhea." It will be readily appreciated that lack of extreme gentleness on bimanual examination, or the traumatism incident to dragging down the uterus before curetting, as is customary, might easily have ruptured one of these thin-walled collections of pus. Prominent bulging into the culdesac is certainly a great temptation to "incise and drain," but one can never be certain just what and how thoroughly he has drained. In this case, one or even both ovaries might have been drained, but both pyosalpinges might have been overlooked and remained and the patient's suffering would only have been prolonged.

CONCLUSIONS

1. Corpus luteum extracts are superior to similar preparations made from entire ovaries.
2. Suitable cases for corpus luteum organotherapy must be carefully selected.
3. The indications for the administration of a lutean extract are distinct and its use should be limited to these conditions.
4. The administration of corpus luteum is followed by certain definite phenomena.
5. It is of the utmost importance to use an extract obtained from the ovaries of pregnant animals only.
6. Five-grain doses, three times a day, are usually all that are required.
7. There is great necessity for constant supervision of the blood-pressure of patients taking corpus luteum. It should not be permitted to fall more than 15 mm. below the patient's normal pressure, and never below 90 mm.
8. Personal experience has demonstrated that corpus luteum organotherapy is of considerable value in clinical practice.
9. In one patient, menstruation has been reestablished after complete extirpation of all ovarian tissue, by the use of corpus luteum extract.

2030 Broadway.

The Growth of Science.—Step by step as a science progresses the mass of knowledge composing it increases, the knowledge of the single items becomes progressively more accurate, and the methods for obtaining new results become more complicated and specialized. Therefore the efforts also of those undertaking research must be concentrated, that is to say, narrowed and specialized, otherwise the specialist will be wanting in technical capacity and in the means of carrying on his work with the best possible results.—Lugaro, Problems in Psychiatry.

USE OF CHOLESTERINIZED ANTIGENS IN THE WASSERMANN REACTION *

B. A. THOMAS, M.D., and R. H. IVY, M.D.
Professor and Instructor, respectively, in Genito-Urinary Surgery, Philadelphia Polyclinic
PHILADELPHIA

A great deal of work, experimental and other, is being done at present with various substances as antigens in the performance of the Wassermann reaction. This is tending so to vary the technic of the test and give rise to contradictory results as to create considerable confusion in the minds of those to whom the reports are of primary importance, namely, the clinicians. We thought it advisable, therefore, at this time to set forth briefly, without going too much into technical detail, our views of the antigen question based on a comparative study of different extracts.

Wassermann and his followers for a long time clung to the belief that the syphilis reaction was a true antigen-antibody reaction, between the *Spirochaeta pallida* on the one hand, and the specific substance produced by it in the patient's blood on the other. They were forced to modify this position by the discovery that alcoholic extracts of normal tissues, such as human and guinea-pig heart, could likewise be employed as antigens with good results. Nevertheless it is still held by Wassermann's followers that tissues rich in spirochetes, probably owing to the presence of substances produced by the action of the spirochetes, are superior as antigens to non-syphilitic tissues or synthetic products, and give the most reliable results in routine clinical diagnosis. We adhere to this view as the result of the use of syphilitic liver-extract in over two thousand tests, in which our results have differed in no material way from those of reliable workers.

This statement is made after a thorough trial of some cholesterinized extracts of guinea-pig heart and human heart, kindly furnished by Kolmer,[1] who, with Casselman, has recently reported favorably as to their reliability somewhat to the disadvantage of the syphilitic liver-extract. These extracts are made by saturating the ordinary alcoholic extract of normal heart with cholesterin, which is soluble in alcohol up to about 1 per cent. The cholesterinized guinea-pig heart-extract was used by us along with our own antigen of alcoholic extract of syphilitic liver in the routine examination of 100 cases, the cholesterinized human heart-extract being employed in thirty-three cases. These investigations covered a period of several weeks. We may say here that the difference in results with the three antigens was no more marked at the end of the period during which these comparative tests were made than at the beginning, so that they cannot be ascribed to deterioration of the extracts. Careful preliminary titration of the antigens was carried out before doing the tests, and at no time was more than one-third of the anticomplementary dose used. The comparative results of tests with syphilitic liver-extract and cholesterinized guinea-pig heart-extract may be divided into four groups as follows:

1. In twenty-two cases the results were positive with both antigens, with little or no difference in degree of reaction.
2. In eight cases the syphilitic liver-extract gave a weakly positive reaction, while the cholesterinized extract gave a stronger reaction.
3. In thirty-six cases both antigens gave a negative result.
4. In thirty-four cases the syphilitic liver-extract gave a negative reaction, while the cholesterinized heart-extract gave a weakly positive or medium positive result. This is naturally the most important group from the clinical point of view. Nine of these thirty-four cases were treated cases of syphilis exhibiting no symptoms, showing that it is more difficult to render the serum negative to the cholesterinized heart-extract by antisyphilitic treatment. The remaining twenty-five of this group were cases submitted for diagnosis or which had no signs or history of syphilis. When one antigen reacted more strongly than the other, it was always the cholesterinized heart-extract. In no case did the syphilitic liver-extract give a stronger reaction than the cholesterinized extract.

In the comparative tests with the cholesterinized extract of human heart, of thirty-three cases there were six in the first group, that is, equally positive with the two extracts; four in the second group, in which the cholesterinized human heart-extract gave a distinctly stronger reaction than the syphilitic liver antigen; sixteen in the third group, in which both antigens gave negative results; seven in the fourth group, which were negative with the syphilitic antigen but positive with the cholesterinized heart-extract.

In the first series, therefore, the results with the two antigens disagreed in forty-two out of 100 cases, and in the second series in eleven out of thirty-three cases. We see from these results that the cholesterinized extracts apparently give a more "delicate" reaction than the extract of syphilitic liver, but we also find that many weakly positive results are obtained by them in non-syphilitic cases. This fact alone is quite sufficient, in our opinion, to offset any advantage in delicacy of the reaction obtained with the use of cholesterinized extracts. We feel that just as high a percentage of positive results is obtained in known or clinically apparent syphilitics with the syphilitic liver-extract as is obtained with the cholesterinized antigens, and the former do not give positive results in non-syphilitic cases. The success in detecting mild degrees of syphilitic infection is doubtless due in part to the use of one properly standardized unit of complement and hemolytic amboceptor, as suggested to us by Laird,[2] instead of double or triple units as employed by many workers. We must conclude that with cholesterinized antigens, varying degrees of inhibition of hemolysis may be obtained in serums from many conditions other than syphilis, and in normal persons. While experimental investigations are to be highly commended, we therefore regard the employment of these artificial antigens for routine clinical use at the present stage of our knowledge, instead of being an advance in serologic technic, rather as a distinct step backward.

Schamberg, Kolmer and others[3] report that they obtained positive Wassermann reactions, using the cholesterinized antigens in over 28 per cent. of twenty-two cases of psoriasis, in a great many of which syphilis could almost certainly be excluded, thus providing evidence that weak reactions with these antigens do not necessarily mean syphilis, and that a diagnosis of syphilis cannot be based on weak and medium inhibitions when they are employed. We hold that weakly positive reactions with syphilitic liver-extract mean nothing but syphilis. Even though it were true that the cholesterinized antigens give a more delicate reaction and may furnish positive results in cases of syphilis that are negative to the syphilitic liver-extract, it is a very much less serious error to overlook an occasional case of syphilis than to saddle a diagnosis of the disease with all it entails on a patient who does not have syphilis.

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* From the Department of Genito-Urinary Surgery, Philadelphia Polyclinic Hospital and College for Graduates in Medicine.

* Read before the Philadelphia Genito-Urinary Society, Nov. 24, 1913.

[1] Kolmer, J. A.: Paper read before the Pennsylvania State Medical Society, September, 1913.

[2] Laird: Pennsylvania State Med. Jour., September, 1911.

[3] Schamberg, J. F.: Kolmer, J. A.; Ringer, A. I., and Raiziss, G. W.: Research Studies in Psoriasis, Jour. Cutan. Dis., October, 1913, p. 808.

Considerable harm is being done at present by the use of unreliable non-specific or artificial extracts, in two ways:

1. The marked discrepancies between the results of the Wassermann test and the clinical findings in many cases are causing skeptical clinicians to lose confidence in the value of the reaction, and thus they are being deprived of an important diagnostic and therapeutic aid.
2. A great many unfortunate persons are being treated for syphilis who have not and never had syphilis, as the result of weakly positive and doubtful reports of workers using these antigens.

By all means let the experimental work go on, in the endeavor to improve the technic of the Wassermann reaction; but until the results obtained with innovations are proved to be more reliable than those with the generally accepted methods, let us adhere to the technic and reagents that have withstood successfully the assaults of time and which are supported by clinical experience.

116 South Nineteeth Street—1623 Walnut Street.

INCREASE IN TOXICATION OF ETHER BY NEW METHODS OF ADMINISTRATION

RAYMOND C. COBURN, M.D.
Anesthetist, New York City and New York Post-Graduate Medical School Hospitals; Supervising Anesthetist Beth Israel Hospital
NEW YORK

The small amount of ether administered in the intravenous method, as compared to that used in the inhalation and insufflation methods, has led some to believe that this direct method of introduction lessens the amount of ether utilized by the patient in the maintenance of anesthesia, whereas the reverse is true. Anesthesia is maintained by keeping the ether and the blood at a certain ratio. When the blood remains constant in volume, increase or decrease in the percentage of ether deepens or lightens the anesthesia accordingly, and conversely, the amount of ether within the system remaining constant, an increase in the volume of the circulating fluid decreases the depth of the anesthesia. To maintain surgical anesthesia in the intravenous method, then, the amount of ether required is increased in the proportion that the saline solution bears to the original, total volume of blood.

In the normal adult (150 pounds) the amount of blood varies from 4.58 to 4.65 liters, and from this can readily be calculated the extra burden of ether toxication thrust on the patient. In such a patient, using preliminary hypodermic medication, intravenous administration requires for induction about 8 ounces of saline solution; that is, at the end of induction there is being thrown into circulation about 5 per cent. more ether than is required in other methods; at the end of an hour's surgical anesthesia the excess is 15 per cent., and at the end of a prolonged operation, in which it is reported that 4¼ pints of saline solution were administered, the excess was more than 40 per cent.

It is futile to hold that this pronounced excess of ether does not increase ether toxication. While some of the saline solution transudes into body cavities and tissues, it carries ether with it, and this must subsequently be excreted. The comparative freedom from postnarcotic nausea and vomiting does not necessarily indicate lessened ether toxicity, for the methods of administering ether that avoid passing a strong vapor continually over the olfactory nerves are likewise followed by less nausea and vomiting. The odor of ether, *per se,* is nauseating, and causes much of the vomiting in the cruder methods of administration.

In the oil-rectal method of administering ether the same ultimate result — increasing the amount of ether in circulation — seems to follow, although the modus operandi is entirely different. Here, in the adult, about 6 ounces of ether, plus 2 ounces of olive-oil (both by volume) are introduced into the rectum. All of the ether thus introduced reaches the patient's circulation, except that which is subsequently withdrawn, as there is no source of evaporation, such as occurs in other methods. It requires only 1½ ounces of ether in the patient's circulation without rebreathing to induce and maintain an hour's surgical anesthesia. The amount of ether withdrawn in the oil-rectal method shows that a much larger amount than this reaches the patient's circulation. The much larger amount of ether required in this method is probably due to the oil interfering with the anesthetic action of ether. Theoretically, of course, this is true, and it seems to be verified practically. Not only is there very much more than 1½ ounces' difference in the original amount of ether introduced into the rectum and that withdrawn at the end of an hour of surgical anesthesia, but there is a decidedly greater tendency toward respiratory paralysis without the corresponding depth of anesthesia that occurs in other methods. This indicates that while the oil may lessen the anesthetic action of ether it does not correspondingly decrease its toxic action on the respiratory center. Certain it is that the margin of safety between surgical anesthesia and respiratory paralysis is considerably reduced in the oil-rectal method.

It is not contended that these methods are without value, for each possesses decided advantages; but the price that is exacted for these advantages should always be given proper consideration.

Hotel Bretton Hall, Eighty-Sixth Street and Broadway.

VAGOTONY AND ITS RELATION TO MUCOUS COLITIS

B. L. SPITZIG, M.D.
CLEVELAND

The classical work of Eppinger and Hess in recent years materially advanced our knowledge of visceral neurology. Through their initiative a more thorough investigation of the relationship existing between the nervous supply and visceral function was instituted, and this investigation has resulted in clarifying hitherto obscure problems pertaining to this subject. In many complex disorders, particularly those dependent on changes in the glands of internal secretion, there is a change of tonus in the two important systems, the autonomic[1] and the sympathetic. The former comprises chiefly the oculomotors, the vagi and pelvic nerves. An overaction of this system is shown in certain cases of ulcer, bronchial asthma and pollakiuria, whereas in exophthalmic goiter and diabetes mellitus the effect of the sympathetic predominates. It is supposed that in certain states there may be an insufficiency of the one system or a hyperplasia of the other; and again, it may happen that both systems hypofunctionate or hyperfunctionate coincidently.

Clinically, disorders of the vagal tract are the easiest to understand, and this paper will deal chiefly with hypertonicity of that system (vagotony). On account of the anatomic distribution of the nerve, symptoms of increased innervation are readily identified in the gastro-intestinal tract. Perhaps the most constant result of such activity is the state of hypertonus in the musculature of the stomach and intestines. The bowel, chiefly the colon, remains in a more or less constant phase of overcontraction. This condition is demonstrable in that type of constipation, referred to as spastic, which is frequently found in early and middle adult life. The tender, palpable colon is a prominent sign of vagotony, as well as the frequent presence of a tightly contracted external sphincter. Rectal palpation furnishes valuable aid in identifying this state of hypertonicity and should never be omitted. The complaint of abdominal pain is a frequent, but not necessarily a constant occurrence. In cases of pronounced spasticity patients complain of intermittent pain in the locality of the large bowel. Commonly, the transverse part is affected from the right to the left sides, which phenomenon arouses visions of cholecystic, duodenal or gastric lesions. Often the pain is referred to the cecal region, and this circumstance is responsible for the removal of countless innocent appendixes. The descending colon is involved in most instances in which pain is a prominent symptom and is most likely to show evidence of spasticity—a valuable feature in differentiating from chronic appendicitis and other common abdominal lesions.

Many cases in which colic occurs are complicated by other colonic anomalies, pericolic membranes, kinks and ptoses. This relationship has been discussed in an earlier communication.[2] The interesting point is that many patients complain of abdominal pain which is characteristic in its location and often in its relation to defecation, occurring usually before and after the evacuation of the lower colon. Sometimes this pain occurs after taking cold drinks or after too rapid eating, when it is followed by a profuse, mucous evacuation, the "nervous diarrhea" of former writings. Nicotin seems to have some relation to this disorder, for excessive smoking and chewing may result in attacks of colic. Possibly it acts as an irritant to the vagus, as does lead in cases of plumbism.

The number of patients showing the absence of abdominal pain is equally large, but this does not militate against the existence of hypertonicity. Physical examination usually elicits evidence of varying degrees of tenderness and palpability of the large bowel. A careful abdominal examination and palpation of the rectal canal show the existence of this condition when it was least expected from the anamnesis. The frequency of the disorder is astounding; perhaps two-thirds of young adults are sufferers at different times. Commonly, a history of the cathartic habit justifies the suspicion of the probable existence of colonic spasm, as most cases of resistant constipation in early adult life are proved to be spastic in character.

The influence of vagotony is referable to changes in the stomach. Delayed evacuation of the gastric contents frequently indicates pylorospasm, which results from overfunctioning of the vagus. With this factor hyperacidity is usually concomitant — a group of signs very suggestive of ulcer. Indeed, it is supposed that the ischemia from muscular spasm and an excess of acid, together with a possible infectious cause, may lead to ulcer formation. Perhaps most gastric ulcers that have been permanently relieved by medicinal measures were no further advanced than the stage of pylorospasm and hyperacidity. Other gastric neuroses, cardiospasm and singultus, may further suggest the diagnosis of this condition.

The cardiac system may present the signs of bradycardia and occasionally mild arhythmia. The lungs sometimes offer confirmatory evidence of vagotony in the occurrence of attacks of bronchial spasm or a tendency to sighing with forced expiration. The rarer signs of increased vagal innervation are miosis, salivation, increased perspiration and urination, facial flushing and cold extremities.

Within the last year a pupil-test has come into vogue. On forced inspiration the pupils are dilated and contract on expiration. Similarly, the pulse is quickened and slowed during the same respiratory phases. Both these tests, when positive, indicate vagotony. In the limited number of cases tested in personal work more than half showed positive results. It was found that the pupil-test sometimes fails when demonstrated too often in rapid succession.

There is little difficulty in recognizing pronounced cases of vagal overstimulation; but there are other conditions, not so outspoken, which respond to the appropriate treatment and can possibly be included in that category. Status lymphaticus, for instance, has been treated with success through measures directed toward controlling vagal activity. Mucous disease of childhood shows a certain relation to the last-named. The pasty anemia and exudation of the skin are characteristic. Abdominal pain and distention, clay-colored stools with excess of mucus, marked irritability and asthenia complete the picture. Bronchial spasm and lymphatic hyperplasia sometimes occur. Errors in diet, an excess of starchy and coarse foods and a lack of proteins seem to be causative factors and may induce the clinical picture by stimulating the vagal system. This chronic intestinal indigestion readily responds to dietetic and medicinal treatment that relieves such overstimulation.

In mucous colic of adults there may be a similar relation to vagotony. The cause of this disorder does not lie in the intestinal mucosa, as there is usually no evidence of a colitis. The lesion is more central and may have its site, at least in the early stages, in a disturbance of the autonomic system. The hypochondriasis suggests that the sympathetic as well as the autonomic system is involved. In this neurosis chronic constipation precedes and attends the disorder, and it is conceivable that this factor induces an overstimulation of the vagus (probably through the internal secretions) and later of the sympathetic system in cases of inherited or even acquired nervous instability. The fact that many patients suffering from mucous colitis give a history suggestive of prolonged intestinal spasm is important. The seasonal recrudescence also is interesting. Attacks occur periodically after a season of intensive application to work, during which time intestinal and general hygiene are neglected through attention paid to other duties.

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[1] The term refers to the essential autonomic system. Some writers include both systems under autonomic and distinguish them as the sympathetic autonomic and the craniosacral autonomic or autonomic proper. For the sake of brevity the simpler terms are used.

[2] Spitzig, B. L.: Intestinal Intoxication and Thyreotoxicosis, Ohio State Med. Jour., 1913, ix, 408.

In a short series of these cases the pharmacodynamic methods[3] yielded interesting results. Two-thirds of these patients reacted severely to epinephrin, thus indicating increased sensitiveness of the sympathetic system. Nearly all tolerated large doses of atropin, which factor suggests that vagotony was present. The pilocarpin test was not constant in results.

MODE OF TREATMENT

In relieving vagotony, belladonna and its active principle are the remedies *par excellence*. Hyoscyamus and opium are sometimes useful, but do not compare with the first-mentioned drug. As a routine treatment, a dose of 5 drops of the tincture or 1/6 grain of the extract is ordered three or four times daily, and is continued until the symptoms of dry throat and mydriasis appear. The dose is then decreased and thereafter varied to suit the individual tolerance. Occasionally there is marked idiosyncrasy toward the remedy, but the apparent relief from vagal disturbances outweighs the irritation from the drug. Medication is continued for one or two weeks, until all abdominal soreness has disappeared and tenderness is no longer evoked by palpation of the affected colon. After an intermission of two weeks another course of belladonna is advisable in resistant cases.

The correction of constipation is very important, but the methods used must in no way aggravate the spasticity. Consequently, massage, severe bending exercises and iced applications are decidedly contra-indicated. Similarly coarse food and laxatives as aloin, senna, rhubarb, podophyllin and violent salines are to be avoided. The mildest drug is phenolphthalein, but a more natural laxative is the undigested sea-weed agar-agar. This seems most helpful in 1-dram or 2-dram doses after meals, until the dietary can be enlarged to include more cellulose. The diet is general in character — proteins, carbohydrates and fats are allowed, provided there is no contra-indication to any class of these foods. Fruits and tender vegetables are permitted, and as the colonic irritation subsides the coarser foods are added to the dietary. The habit of regular defecation is to be emphasized at the outset of treatment.

Mucous disease of childhood demands special consideration. In this condition agar and belladonna are of great service in hastening the disappearance of the abdominal symptoms. Dietetic modifications are needed in the reduction of starchy products and the withdrawal of all foods coarse in structure and irritating to the tender intestines of the child. Proteins rich in iron are useful and a moderate quantity of fats. Coffee and tea naturally deserve denunciation. Regular meals are to be prescribed with a minimum of liquids, and lunches of starchy foods and sugars omitted. The tender fruits are allowed, and as the condition improves other cellulose foods are added.

The treatment of mucous colitis is the most difficult of all. Many patients show earlier gain with insistence on absolute rest, physical and mental. Two weeks' rest in bed is time well spent. During this period the regimen of treatment can be properly inaugurated. Hot abdominal compresses are always beneficial and can be ordered best during the period of confinement in bed. The diet is of no mean importance in mucous colic. For several days the food is bland and non-irritating, but of high nutritional value. As soon as possible general diet is ordered and forced feeding is instituted to continue far beyond the time of convalescence. There is no more abstemious eater than the neurotic with mucous colitis. Usually he has dieted himself to the verge of inanition, and his lack of food tolerance is more mental than physical. As soon as he is carried to a stage at which he realizes that an abundance of food is beneficial, he acquires his full share of self-confidence and his progress is assured.

The medicinal treatment has been suggested before. Belladonna is ordered in full doses. In severe cases morphin is combined with atropin. A capsule of opium and belladonna, each ⅛ grain, and ½ grain of phenolphthalein is given four times a day, the laxative preventing self-medication. The use of belladonna is sufficient in milder cases that seem free from intense sympathetic stimulation. In the latter event a capsule of calcium lactate, 5 grains, and extract of ergot, 2 grains, given four times daily, seems to have some effect in quieting sympathetic excitation. When this fails, opium is used, as indicated above. Other measures are of less importance. Agar is ordered in place of coarse diet, and olive-oil is given internally. Liquid petrolatum does not seem superior to cottonseed-oil, and castor oil may be of some benefit. The question of the value of enemas is undecided. Olive-oil or a starch solution injected into the bowel can do no harm. Some patients judge the ability of their medical attendant by comparing his methods with those of his predecessors. It may be diplomatic not to omit intracolonic injections of oil, but astringent solutions of various kinds are idle therapeutic measures.

Complete restoration of vigor after an attack of mucous colic may be retarded over a variable period. It seems, however, that by recourse to this intensive treatment the time of convalescence is materially hastened. After all is done it sometimes happens that complete relief is obtained ultimately through a change of environment. A sojourn at the seashore often precludes the necessity of resorting to colostomy or colectomy, procedures extremely doubtful as to their permanent worth.

I acknowledge the many courtesies extended by the clinical staff at the Charity Hospital Experimental Department of Western Reserve University.

446 Rose Building.

Psychasthenia.—Psychasthenia is always congenital by virtue of the heredity which outlines the characteristics of our brain.—Dubois.

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[3] In explanation of these tests it may be stated that epinephrin (1 c.c. of a 1:1,000 solution) indicates a positive reaction by the onset of chills, arrest of secretions, marked tremor, mydriasis, tachycardia, intense headache and vertigo (from increased cerebral pressure). Pilocarpin (from 1/10 to 1/15 grain) is used to indicate autonomic sensitiveness and shows a positive response (usually when sympathetic hypertonus is absent?) by the occurrence of flushing, increase of all secretions, miosis, bradycardia and syncope (from cerebral vasodilatation). When atropin is tolerated in large doses (from 1/75 to 1/150 grain) and can be continued for long periods before the physiologic effects are obtained, the existence of vagotony bears confirmation; at least the untoward symptoms, xerostoma, mydriasis, tachycardia and precordial distress, encountered when the tonus of normal vagi is depressed, are not so readily induced in subjects presenting clinical signs of vagal overstimulation. An exception to this statement appears in those cases in which there is evidence of coincident sympathicotony. It appears that in this situation the sympathetic needs to be depressed (calcium, ergot, morphin) and the larger doses of atropin are thereby tolerated.

URETERAL OBSTRUCTION CAUSING URINARY STASIS

A NEW ETIOLOGY IN KIDNEY-STONES, WITH A NEW METHOD OF NEPHROPEXY TO SECURE IDEAL NATURAL DRAINAGE *

O. S. FOWLER, M.D.
DENVER

So many factors have been adduced in the etiology of kidney-stones, and so many differences of opinion on these various factors have been current among men of high authority, that this condition seems somewhat analogous to the diseased conditions which have so many remedies offered for them that none of them is likely to be of value. Thus, the theory held by many that disturbances in the digestive processes and in the general metabolism of the body are etiologic factors seems to have been fairly well supported, but Watson and Cunningham state that the correctness of this view is now doubted. Dr. A. B. Johnson puts it lightly by saying that "in general, defective metabolism from any cause seems strongly to predispose to renal calculus." He further says that mode of life, apparently, has some influence; a sedentary life, a nitrogenous diet and the use of alcohol seem, in some cases, to determine the formation of renal calculus. On the other hand, among persons who live chiefly on carbohydrates and who live and work vigorously out of doors, renal calculus appears to be quite common enough.

Keyes puts it rather tersely by saying that the etiology of primary kidney-stone is most obscure. He later elaborates on a course of preventive treatment, but admits that he bases few hopes on it.

The older writers, according to Mumford, included nephrolithiasis under the term "gouty diathesis"; but Watson and Cunningham observe that "among the natives of certain provinces of India, joint manifestations of gout are not known to occur, but that calculus disease is extremely prevalent. These people are vegetarians and abstainers from alcoholic stimulants, and the facts cited are in direct contradiction to the idea of the injurious influence of meat diet, alcohol, etc., or at any rate serve to show that among the natives of this race these factors play no part in calculus formation, *which must be referred to some other cause.*" This view is further supported by the statistics of Surgeon-Major Roberts of the English Army, based on 3,041 operations for kidney-stone in India in the course of one year, in which country alone, seventy-eight of each thousand inhabitants were operated on for this condition. Guiteras states that it occurs more often in men than in women, but Ransohoff in Keene's "Surgery" says that it is equally common in the two sexes. Reclus and Duplay also make the same assertion, while Schenk and Tenney report the figures for 134 cases of which seventy-four were *in women and fifty-eight in men.*

The statistics of these calculi show that approximately one-half are of uric acid; but uric acid stones do not usually show by roentgenoscopy, and the roentgenologists maintain that not over 2 to 5 per cent. of all stones fail to show by present methods: thus it would appear either that there is much variance in the figures, or that the stones are not pure uric acid, but are combined with other minerals which cast a roentgenographic shadow. Concentration of the urine as predisposing to deposition of its salts is a factor agreed to by practically all writers; thus, the concentration of the urine by perspiration *would seem to be a factor;* but, on the other hand, kidney-stones are very infrequently found in the negro race, on the whole to be regarded as a tropical people.

There is more uniformity of opinion on the question of local causes, for more definite information may be had on various objects which act as a center of crystallization, such as foreign bodies, blood-clots, masses of mucus and pus, micro-organisms and parasites and certain drugs which by their irritation produce sufficient desquamation of epithelium and excretion of mucus to serve as the nucleus.

Fenwick, Guiteras and others have mentioned that stones are sometimes found in movable kidneys, but apparently they do not regard this as any more than simply a predisposing factor. It is generally agreed that a stone may at first be primary in origin, but may have secondary depositing layers of other materials in consecutive strata and that this is usually the course, which would again indicate that pure uric acid or other pure stones are in reality found less often than we might be led to believe from many of the statistics on the subject. Pyonephrosis is usually regarded as secondary to stone formation and obstruction. It is certainly true that the stone does increase the infection, but I believe that the opposite is true originally before the stone was formed.

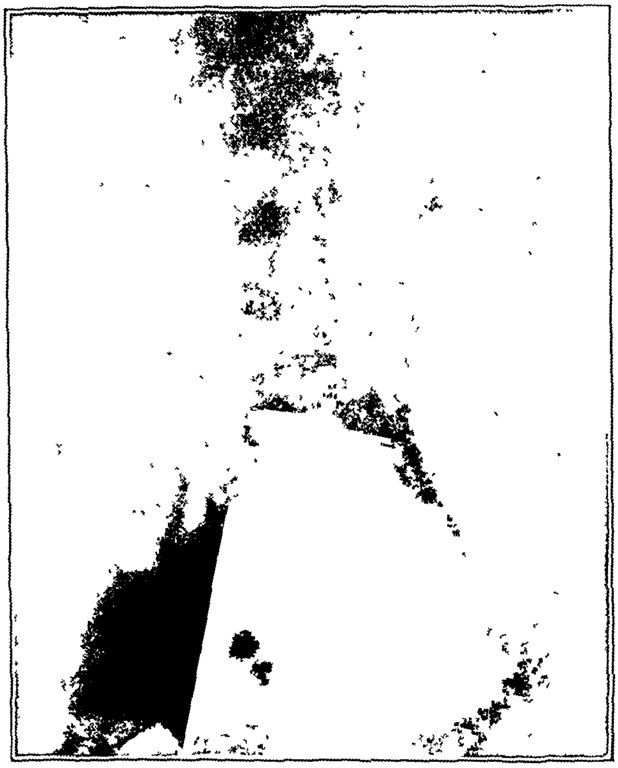

Fig. 1.—Mrs. C. G., referred by Dr. Robert King. A normal kidney and ureter on the left side are shown with patient standing. Kidney is slightly down but there is no rotation and the ureter has *no angulations. The gentle deviations in its course are normal.* The calices are clear-cut and normal. The right kidney is in the pelvis and rotated 90 degrees, with its pelvis pointing upward. A sharp angulation or kink opposite the fourth lumbar vertebra gave rise to an intermittent hydronephrosis, the obstruction which is presented in this paper as the basic etiology of kidney stone. This obstruction gave rise to a transferred pain to the left ureteral region, one of the few proved cases of transposed kidney pain.

It would seem, *therefore, that there* is almost no point in the general etiology of primary kidney-stones that all are agreed on, with the exception of concentration of the urine, so it appears that we are certain of little in this interesting and important subject.

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* Read in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

I wish to call attention to a condition in the urinary tract which appeals to me as being a reasonable etiologic factor and one which might add much to our present indefinite knowledge on the subject, if properly and carefully sought. I was astonished several months ago, while going over a large amount of roentgenographic material, to notice that those cases in which the patient now had a stone in the tract or had given a positive history of having passed a stone and recovered it from the urine, all showed an obstruction in the course of the ureter to the free outflow of the urine. This point I have endeavored to demonstrate in each case since, with such results that now I expect to find it. To date I have secured the records of six cases with sufficiently good plates for reproducing on lantern-slides. These are not all the cases seen, but all in which I was fortunate enough to have the privilege of completing the diagnosis.

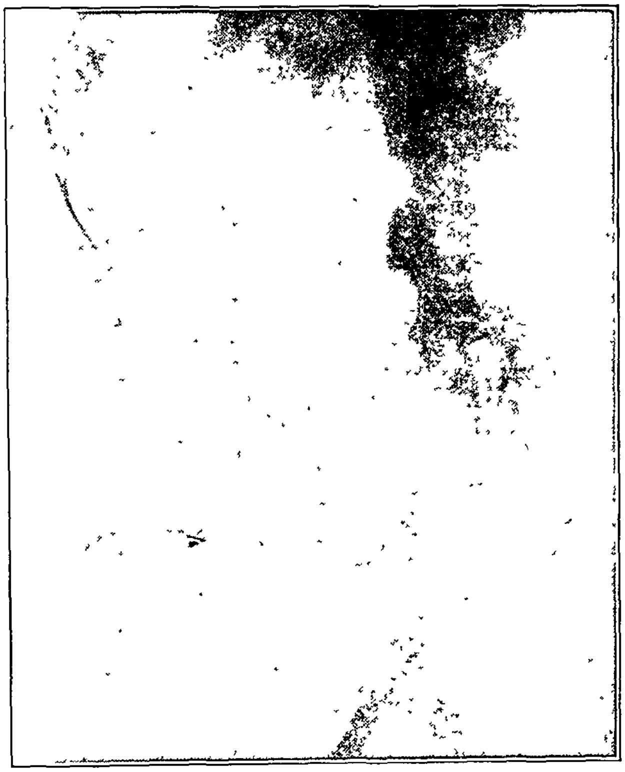

Fig. 2.—Mr. C. V. Z., young man, referred by Dr. Van Zant. The patient is standing and the roentgenogram shows right kidney dropped only the width of one vertebra. There is a stone-shadow in the pelvic portion of the ureter Opposite the lower fourth lumbar vertebra is a distinct angulation; collargol is entirely pinched out. This obstruction gave rise to an intermittent hydronephrosis on which was implanted a colon infection. There were occasional attacks of pain, blood and pus Kidney pelvis is convex on lower border. Calices are not clear-cut and definite on their edges. Operation was performed, at which stone was removed from ureter, and nephropexy done.

By way of introduction I wish to call attention to the fact that in all four-footed animals, and in man when on all fours, or on the abdomen, if the kidney is in its proper position and has sufficient anchorage, of a series of horizontal planes drawn through the animal lengthwise those passing through the body of the kidney in its parenchyma would be the highest, and those passing through the mouth of the ureter would be the lowest part of the tract, and the bladder would lie yet lower than this. Thus it can be readily seen that under these conditions the urine has a down-hill drainage until the bladder is filled, and then the viscus empties itself upgrade by sufficient muscular activity. The ureter is supplied, as is well known, with muscular fibers which give intermittent spurts of urine into the bladder, but the kidney and the upper portion of its pelvis are not supplied with this musculature; therefore, the kidney and pelvis must empty themselves by some other method, and it is evident that when mankind assumed the upright attitude, the normal kidney drainage suffered to this extent, that the lower calix or calices are below the lowest part of the kidney pelvis as it leaves the kidney and that this naturally gives a space in which there must always be at least some stasis of the urine. Whether or not this reasoning is correct, however, in regard to the normal kidney, future investigations will undoubtedly give much definite light on the subject. We do know, however, that there is stasis of the urine in those kidneys that have obstruction in the ureters, and it is this evidence that I desire to present. We know that the kidney has suffered, along with most of the other abdominal and pelvic organs, by the assumption of the upright attitude and that it is insufficiently supported to maintain its proper position and relation and is prone to descend from this position in both men and women about equally, if examined roentgenographically; we also know positively that stasis invites and harbors infection, whether it is within or without the body; this is true of gall-bladder stasis, regarding which it has been conclusively proved by Naunyn that there are but two necessary conditions for the formation of gall-stones, infection and stasis, that stones will not form in a sterile medium even when a sterile foreign body is introduced (smooth, round ivory balls), that the cement substance is supplied by the inflammatory process and that the inflammatory debris acts as the nucleus around which the stone grows.

The same conditions of stasis and infection are the recognized requirements for primary stone formation in the urinary bladder, and the findings to date demonstrate that the same conditions are present in the formation of primary as in the formation of secondary stones in the kidney. Dr. Guy Hunner has recently made the statement that he believes that pyelitis occurs only in the presence of more or less obstruction, and I have much positive roentgenographic evidence of this, in addition to the clinical evidence in the pyelitis of pregnancy, a well-recognized lesion due to the pressure of the fetal parts on the ureter, which usually clears up after delivery, provided that this is the only cause of obstruction and that some urinary stasis had not existed before the pregnancy which had not been sufficient to give a marked degree of urinary obstruction. Many women, however, date kidney difficulty from the time of a pyelitis of pregnancy, which did not or could not clear up afterward.

It seems to me that the main reason for the tardy recognition of this apparently important etiologic factor has been that until recently it was necessary for the profession to depend on the clinical findings and on the operative and post-mortem findings when the lesion had advanced so far that its origin was hidden beyond recognition by the extensive secondary destruction. Now, with cystoscopy and roentgenoscopy, we are able to demonstrate even the mildest degree of obstruction in the urinary tract and to offer proper relief long before marked loss of functional ability has occurred. It has been asserted by some general surgeons that they can diagnose these urinary conditions without the aid of the cystoscope and the Roentgen ray; but to me such a statement is only proof positive of ignorance of modern diagnostic procedures, as well as a vicious carelessness of the patient's welfare, which depends largely on accurate diagnosis.

As stated previously, the roentgenograms show the presence of a stone, or one was passed and recovered; and they also show ureteral obstruction. Which lesion was the earlier in the patient's history, the stone or the obstruction? We well know that motility of the kidney with a small amount of obstruction may exist for some time without giving serious difficulty or perhaps being recognized, but a stone does not act so kindly; it usually gives early positive evidence that it is there and will stay there until something of a radical nature is done to remove it. Another point in favor of the obstruction theory is that we know that all substances in chemical or physical solution are hastened in precipitation and deposition of sediment by being at rest (stasis) or in a slowed stream; for we do occasionally have stones in the kidney without infection which are, almost without question, deposited there chemically as crystals and cause sufficient irritation to produce mucus which acts as a cementing substance. This theory also accounts for the fact that the vast majority of kidney-stones are found in the lower pole or in the pelvis of the kidney. Stone in the upper pole is unusual and stone in the parenchyma is a surgical rarity according to a number of authors. It also accounts for the formation of a nucleus by the presence of more or less infection and inflammation, producing pus, mucopus and even blood-clot.

These evidences and arguments I submit to the judgment of the profession, but I believe that all will agree with me that the previous theories are insufficient, that some of them are so far-fetched as to be absurd, and that this theory offers the same evidence that is demanded in regard to the formation of stone in other hollow viscera.

So much for my own experience with this lesion. I believe that its presence can perhaps be demonstrated in all cases of stone in the urinary tract or in cases in which there has been stone, if the method[1] of diagnosing intermittent hydronephrosis prepared and presented by me two years ago is used. I should be pleased if doctors, when examining cases of this sort, would keep this point in mind and try to add more evidence to prove or disprove my explanation of the coexistence of these two lesions, which appears to me as most reasonable and has thus far been demonstrated in all of the cases in which I have been fortunate enough to secure satisfactory roentgenograms.

There is only one method of treatment of the stone, and that is to remove it. Nothing has ever been said, however, about removing the local causes of pyelitis and guarding against the recurrence of the kidney-stone, except that some advice has been given as to diet and the general habits of life, all without much hope of accomplishing anything. There is a principle in general surgery that in order to cure an infected cavity or abscess, complete and thorough drainage must be established; one does not expect a gall-bladder to recover until it has been drained or removed, or an old man to have clear, sterile urine so long as there is a puddle of retained urine in the bladder. Neither do I believe that a pyelitis or a pyelonephrosis can ever clear up so long as the cause, ureteral obstruction, is not removed or prevented; I do not believe that the possibility of a recurrence of kidney-stone is removed so long as, after removal of the present stone, provision is made only for temporary drainage of the infection. I therefore suggest that the following method of nephropexy be used in kidney infections of this sort:

I wish to call attention again to the statement that the lower calices are improperly drained even in the normal position of the kidney. It occurred to me, therefore, that if the kidney were rotated upon its anterior-posterior axis during nephropexy in such a manner that the upper pole was drawn inward and downward and the lower pole drawn outward and upward to such a position that the lower calix would be on a level with or beyond the upper calix, the patient, when in an upright position, would have downward gravity flow of urine from the lower as well as from the upper pole, and that this position would fulfil the demand for a permanent free drainage of the kidney in all parts. I concluded on trial that it would be impossible to accomplish this task with the usual method of nephropexy, as the capsule is so fragile that it will not, in its normal position, support the organ properly by any method.

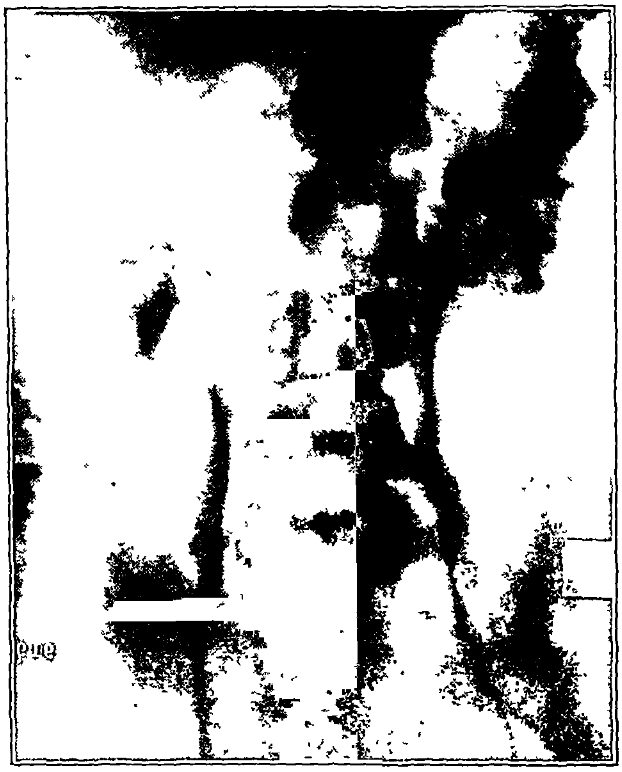

Fig. 3.—Mrs. C. J., standing. Both kidneys are dropped, not markedly; left shows marked angulation 1 inch below pelvis; collargol is entirely pinched out. Patient has passed kidney stone following attack on left side; has had similar attacks in right kidney region but never a stone passed; these continue. The right kidney shows slight rotation; at convex lower border of pelvis, shadow of ureter can be seen passing through the shadow of pelvis; calices are not well defined on their edges; there is some pus with colon bacilli from each kidney; no stone shadows were shown in tract. A diagnosis of double intermittent pyohydronephrosis was made and verified by later exploratory operation for supposed stone, done by another surgeon. Patient was not relieved following this, but at last report, nearly two years later, was steadily improving.

I found that it would be necessary to obtain and use some stronger material for this purpose; I determined on a trial of strips or thongs of fascia lata, one to be used around each pole of the kidney in the following manner: While I am operating on the kidney my assistant removes the fascia from the leg by making an incision about 8 inches long in the front and outer aspect of the thigh and removing a strip of the fascia lata 1 inch wide and about 11 inches long. This I divide lengthwise, making two strips each ½ inch wide. These are put in warm salt solution until needed. This fascial wound is closed with catgut and figure-8 sutures of silkworm gut. I then expose the kidney by the usual oblique incision, without dissecting off the nephrocolic ligament, clear the capsule in the usual manner and free the ureter to remove the cause of the obstruction, the location of which has previously been demonstrated by roentgenoscopy. I next make a series of incisions through the capsule each about ⅝ inch in length around the kidney at about the junction of the thirds of the kidney (see illustration); I now lift up the capsule between the alternate incisions and weave the fascial strip through these, leaving the ends free. I do this by beginning closer to the pelvic border with the upper pole and closer to the outside border for the lower pole, for the purpose of giving the proper direction of traction to obtain the desired rotation of the kidney when the fascial strips are brought through the muscles of the back with a large hemostat adjacent to the wound edges. The one from the lower pole is brought out immediately above or below the last rib and the upper one close to the spine just about on a right-angled line from the spine to the outer one.

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[1] Fowler, O. S.: Tr. Colorado State Med. Soc., 1911.

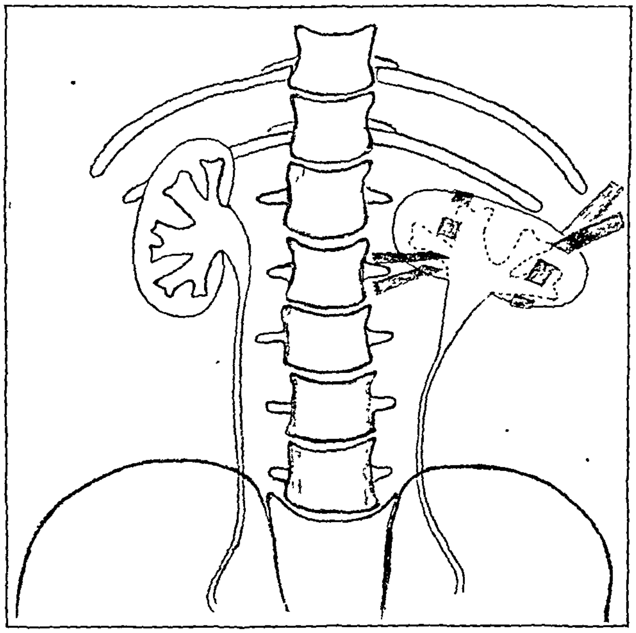

Fig. 4.—The author's method of nephropexy.

I first did this operation nine months ago and have now performed it thirteen times on eleven different patients, with no difficulty following from the transplanted fascia. In every instance except one I have closed the opening in the fascia lata, but I do not think this at all necessary as I believe that a hernia of the muscle will follow only through a slit, and not through a broad opening. It may be asked what becomes of the fascial strips in their new location. I do not think that they become absorbed, as does catgut, but, since they are composed of autogenous living cells, there is every reason to conclude that they live here as they did in the leg by being bathed in lymph, as there seems to be no vascular blood-supply to the fascia in any part of the body.

Henschen has published the description of an operation somewhat similar to this in which he takes a large area of fascia, 18 by 21 cm., which he uses to cover the entire kidney, and sews it to the edge of the wound, putting the kidney in its normal upright position. I would say that the method offers none of the advantages of internal drainage secured by the oblique position of my operation, and, too, the wound in the leg is unnecessarily large, for that amount of fascia would hold a dozen kidneys in place. To me the oblique position is of the greatest importance; in fact, we cannot fully appreciate it until it has been demonstrated what sort of kidney can be saved with it that otherwise would have to be removed.

CONCLUSIONS

1. There are recurrences or non-relief after the usual nephropexy, according to Mr. Short of London, in as high as 40 per cent. of the cases; however, I am of the opinion that to know definitely the risk of recurrence much roentgenographic investigation must be made in these cases a year or more afterward.

2. The operation as here presented is not difficult or tedious; the securing of the fascia by the assistant does not increase the length of the operation; I feel that this method is advisable as it makes it practically impossible for prolapse of the kidney and urinary obstruction to recur.

3. This method makes it possible to place the kidney in either vertical or nearly transverse position, which cannot be done successfully by any of the usual methods or by the one recently proposed by Vogel, in which the capsule is used as a sling over the last rib, for the capsule is entirely too delicate to withstand any strain on it.

4. Any method which advises the passing of sutures of any sort into or through the parenchyma destroys more or less of the parenchyma by a fibrous degeneration and should not be used.

5. This method is indicated in all cases of nephropexy, and the transverse position is demanded in all cases of pyelitis, pyonephrosis and nephrolithiasis, even if the fascial strips should later slough out on account of the infection; for they would hold the kidney in the proper position until sufficient adhesions had formed.

6. The recurrence of kidney-stones is, I believe, due simply to the fact that the urinary obstruction is not removed, and I offer this operation with the idea of giving complete natural drainage of the urine.

Metropolitan Building.

ABSTRACT OF DISCUSSION

Dr. Walter E. Scott, Adel, Iowa: I believe that the kidney pelvis is, under ordinary circumstances, emptied by atmospheric pressure, and that under normal conditions, with the obstruction removed, the operation would be unnecessary. If the obstruction is not removed, however, then the operation would be of great benefit, because the atmospheric pressure would not be sufficient to empty the kidney pelvis.

Dr. Arthur L. Chute, Boston: I cannot agree with Dr. Scott. I think that we see peristalsis from time to time. We do not see it often, but I have seen it even in etherized patients. It seems to me that Dr. Fowler's operation assumes that gravity plays a tremendous part. I quite agree with what he says in regard to stasis as a factor in stone formation, but the operation is unnecessarily complicated. There is one other point: Dr. Fowler said he knew of no person having advised treatment to prevent the re-formation of stone. I think Albarran distinctly urged that, before you do these various plastic operations, you should do a nephrostomy and drain for a long time with that particular end in view

DR W M SPITZER, Denver· The muscular portion of the ureteral wall constitutes about three quarters of it, but the pelvis of the kidney, not having any muscular coat, according to Dr Fowler, he turns the kidney up so that it may drain mechanically Sections taken through the pelvis of the kidney, through the calices majores and even through the calices minores show that seven eighths of the walls of these structures are pure muscle, they do not, therefore, drain by gravity, but by muscular action, and do not, of course, have to be placed in the postion shown by him in order to drain

DR GRANVILLE MACGOWAN, Los Angeles Dr Fowler's operation contemplates the weaving of strong bands of fascial tissue through small loop holes in the capsule of the kidney itself, which necessitates the elevation from the kidney, at intervals, of strips of fascia of from one quarter to one half or three quarters of an inch in width and the weaving of these into a kind of piece work While I approve of it as a novelty, I doubt its efficiency Dr Fowler did not tell us exactly to what he attached the upper or lower bands of fascia that are to hold the kidney in its new place My experience would lead me to doubt that a kidney placed in the position described by Dr Fowler would stay put

Having operated on many kidneys and ureters for stones and strictures and kinks and various other things, I remember often finding these kinked ureters so intimately adherent to the organs surrounding them that it would be difficult to straighten up the kink without loosening up the ureter Further, I would imagine that it would sometimes require excision of a portion of the structures of the pelvis of the kidney to correct the kinking and narrowing of the ureter My criticism of the remarks of Dr Scott is that I do not see how atmospheric pressure could exercise much influence on a ureter that was bound down or a kidney that was out of place

DR W F BRAASCH, Rochester, Minn In a recent paper I reported over one thousand cases of pyelography in which I made a summary of some of the possible dangers and objections to that procedure In the first place, I do not think it advisable to do pyelography in any case in which a diagnosis can be made without its use In the majority of cases we can make the diagnosis without it In the second place, we ought to choose our cases carefully A highly nervous person should not be subjected to it If the patient has pain following such an examination, pyelography will be given the credit for it whether it caused the pain or not In the third place, we should not use pyelography in cases in which there is much residual urine in the renal pelvis, as with large hydronephrosis, because the collargol cannot escape, and pelvic contraction will force the collargol up into the straight tubules and cause abscess It is not necessary to use it in these cases, and diagnosis should be made easily with the catheter

Pyelography will not cause the patient any harm if, after choosing the cases, precautions are taken in its employment In the first place, the collargol should be carefully pulverized, should be used in not more than 10 per cent strength and should be carefully filtered It should not be injected, but should be allowed to run into the pelvis of the kidney by means of gravity It is impossible to inject it carefully No one knows the normal size of the pelvis of the kidney, it may vary from 1 to 25 c c The best way is to use the gravity method, by raising the collargol solution about a foot or two above the pelvis of the kidney and allowing it to run in slowly In that way colic never results, and there is always continued pressure at the time the roentgenogram is taken, which is a very important factor in the pyelography I believe that, if the precautions I have outlined are taken no harm will come This has been my experience in one thousand cases, certainly no permanent injury was done in any of them

DR G G SMITH, Boston· I should like to ask Dr Fowler what happens to the blood vessels when the kidney is tilted in this way. It occurs to me that the vein might be kinked, causing a congestion Of course, if he has had good results in all his cases, that would be against that assumption I wish that he would tell us how much the blood vessels have been in the way, and whether or not he has seen any evidence that this condition does occur

In regard to kinks in the ureter the ureter is a muscular tube similar to the intestines, but with a greater percentage of muscle in proportion to the lumen We find that kinks in the intestine are natural, but are overcome easily enough by the muscular contraction May it not be the same way in regard to kinks in the ureter, unless these kinks are definitely tied down by adhesions? If we get a kink in the bowel that is made fast by adhesions, we get obstruction One would think that the same thing would be true about kinks in the ureter May it not be true that a certain amount of kinking is natural and easily overcome by the ureteral peristalsis?

DR HUGH H YOUNG, Baltimore Dr Braasch's remarks in regard to the use of collargol have been timely We have had one or two cases recently that have disturbed us greatly One was in a man who had a troublesome kidney on one side We gave him a collargol injection very carefully, but following this he had colicky pains and great tenderness around the kidney Evidently there had been an extravasation of the collargol The renal function was almost suppressed, he became uremic, and we thought that he was going to die The gravity method and the weaker solutions are undoubtedly desirable

We ought to find a better material than collargol, which must be irritating, for the same irritation does not follow the use of water

Has Dr Fowler thought of trying to procure these fascial strips in an aseptic way at necropsy from persons dying from accident? It would be easy to keep them in an ice box in vaselin

DR O S FOWLER, Denver Dr Scott's inquiry has been answered by Dr MacGowan I should say that any method of nephropexy, or any other operation that gives as poor results as the ordinary nephropexy, ought to be abandoned If you will write to a hundred practitioners in this country about seventy five of them will say that they advise against nephropexy in cases in which the kidney is known to be the cause because the condition recurs We know that stone recurs, we know that pyelitis remains indefinitely and that it gives trouble for years and practically never subsides

In regard to the case Dr Spitzer spoke of I saw the patient first I found no tubercle bacilli at the time, but did find abscesses and large numbers of colon bacilli and much stinking pus Three weeks after this operation of nephropexy with fascial strips was done, the colon bacilli had disappeared and the urine was clear and could not be distinguished from normal urine Dr Spitzer and I, however, later demonstrated tubercle bacilli coming from that side, but the colon infection did clear up, and, so far as I know, remained so The same has been true of several cases of infection in which I made examination afterward and found the urine clear I am sure that this position of the kidney has helped the urine to escape from the kidney, not out of the pelvis necessarily, but so that the pelvis can get hold of it and expel it The muscular activity of the pelvis is slight

As to the method of attaching this fascia I bring the two loops together by plunging through the spinal muscles sufficiently low to give a sufficient amount of traction to rotate the upper pole inward and downward I push back the skin and bring the lower ones out at a point near the end of the twelfth rib or, I might say, above the rib You determine where to bring these two strips out by the position in which the kidney is to be placed

You can kink the blood vessels if you pull the kidney far out, but that is not necessary After you fasten the strips of fascia you can feel the blood vessels and see if the artery is pulsating properly

I think that Dr Smith is right when he says that if the kidney is properly brought up many of the kinks do not require straightening, but my idea for this operation was that I did two things brought the kidney up there and held it and at the same time, cleared up the adhesion or whatever it was that was causing the obstruction. If I were in a hurry to finish up the case I should let that go

The gravity method of using collargol is good. In my cases I have followed the method of finding the pelvic content at a previous sitting and then injecting half that amount. Lately I have injected 5 c.c. in all cases, and I have had no difficulty from that. I think, however, that the gravity method might be superior in keeping the ureter and pelvis distended properly.

The use of the fascia of cadavers, which Dr. Young has suggested, would be a good idea, but I believe that most patients would object to that procedure, and taking the fascia from the leg causes only a little pain following the operation.

Dr. MacGowan thought that the operation was elaborate. It is not elaborate. I have done the operation a number of times in thirty-five or forty minutes, and it takes that time to do an ordinary nephropexy; further than that, one does not know where the sutures are; the sutures are pulled through last, and often a suture is pulled out entirely. The weaving of the fascia in and out is not difficult.

THE PRACTICAL APPLICATION OF MILITARY FIRST AID IN RAILWAY SURGERY

LEON C. GARCIA, M.D.
Captain Medical Corps, U. S. Army
FORT MORGAN, ALA.

Oct. 19, 1913, in the afternoon, a special troop train bearing the officers and enlisted men of two companies of the Coast Artillery Corps, U. S. Army, and a detachment of the Hospital Corps, a total of 177, traveling at a rather high rate of speed, plunged through a trestle at Rube Burrows Creek, near Buckatanna, Miss., carrying three cars and the structure to the ground, about 35 feet below. The wooden cars and the trestle were more or less completely demolished, but fortunately did not take fire. Fifteen soldiers were instantly killed and two more, fatally injured, died within a few hours. Among the survivors there was not one who escaped injury; that is, the percentage of fatalities was 9.6 and the percentage of injured 100. Thus only a few of the injured were able to help in the work of rescuing their comrades from the wreckage or to assist in the administration of first aid.

The first step taken by the commanding officer was to organize rescue parties to remove all injured from the wreckage and have the hospital corps administer first aid (see illustration). The medical personnel available consisted of one sergeant and two privates first class hospital corps, U. S. Army, all of whom had been moderately injured. The detached-service chest and the hospital corps pouches had been buried in the wreckage, and it was some time before the detached-service chest was found. The first-aid packages were worn by all, and owing to their small size and compactness, were in good shape and readily available. Hemostats from an emergency case and first-aid dressings were used to control hemorrhage. In over ninety open wounds treated, many severe and accompanied with violent bleeding, there was not a single death, showing that the methods of controlling hemorrhage are thoroughly understood by the hospital corps men.

When the first relief train from Mobile, Ala., arrived, six and one-half hours after the wreck occurred, the following conditions governing the care of the injured had been met:

1. All hemorrhage had been controlled.
2. Wall tents sufficient to cover all severely injured had been put up.
3. All the injured had been dressed and bandaged, and the severely injured wrapped in blankets and placed on cots under canvas.
4. Stimulants had been administered to those needing them.
5. Analgesics had been used in every case in which it was necessary to control severe pain.
6. All lacerated, punctured, or incised wounds and all abrasions of the tissues had been painted with tincture of iodin.
7. All injured were ready for transportation.

The chief surgeon of the Mobile and Ohio Railroad, who arrived in charge of the first relief train, said that "the method adopted in handling the injured was remarkably efficient and satisfactory, and the application of first aid striking in its completeness." I was in charge of the transportation of the injured from the train to the civilian hospitals in Mobile, and to the post hospital at Fort Morgan, Ala., and their subsequent care at the post as soon as they could be transferred from the civil hospitals.

Wounded being given first aid and prepared for removal. White first aid bandages render injured conspicuous Iodized bandages, invisible as well as antiseptic, would be preferable

There are several interesting surgical points to note.

1. The efficiency of the first-aid packet, its ready availability over similar surgical supplies carried in bulk, and the thorough understanding of its use by the officers and enlisted men. Soldiers applying the first-aid dressing to each other's wounds were frequently heard to say: "Don't soil it with your hands after opening it," or to make similar remarks.

2. *The fact that in over ninety cases of open wounds there was only one infected.* This infection occurred in a case of compound fracture of the lower third of both

tibia and fibula in which the leg was pinned under the wreckage for six hours in such a position that an occlusive dressing could not be applied. This was also the only injury in which amputation was required.

3. A large number of severe lacerated wounds of the scalp were painted with tincture of iodin and stitched up. I subsequently washed dried blood, dirt, sand and cinders from the scalp and found in all cases a wound healing by primary union.

4. The cases of injury were classified as follows: Two injuries by incised wounds bisecting Stenson's duct; open wounds of every description; numerous contusions and sprains; a number of fractures of ribs; two fractures of femur; Pott's fracture; Colles' fracture; fracture of fibula; fracture of ulna; two fractures of clavicle; fracture of parietal bone; several cases of fracture of bones of foot; compound fracture of tibia and fibula; fracture of radius and dislocation of elbow; compound comminuted fracture of inferior maxilla; compound fracture of upper third of humerus with dislocation of the head which was protruding from the wound; numerous cases of concussion of brain or cord.

When it is considered that all these cases were primarily handled by the hospital corps men alone, that none were lost from hemorrhage, that only one case required subsequent amputation and *this the only one infected*, it shows the high efficiency of the hospital corps men in emergency work and the remarkable results obtained by the intelligent application of the first-aid dressing and the free use of tincture of iodin in open wounds of any character. The great loss of life in this wreck was due to crushing injuries with one rather remarkable exception, in which death was caused by a long sharp splinter of wood penetrating downward from the base of the neck into the arch of the aorta, the man becoming exsanguinated in a few minutes. The results of the application of the principle of military surgery to railway injuries are fully as gratifying as those obtained by their use in the treatment of gunshot wounds.

REPORT OF A CASE OF GRADUAL OCCLUSION OF THE COMMON CAROTID ARTERY IN THE TREATMENT OF PULSATING EXOPHTHALMOS

A. T. R. CUNNINGHAM, M.D., SPOKANE, WASH.

Many cases have been reported in which a pulsating exophthalmos has been dealt with by ligature of the common carotid or successive ligation of both carotids, but as the mortality of this operation is high, it would seem that a method of gradual occlusion of the artery would be preferable. The following report is of a recent operation in which a clamp[1] was used to accomplish this occlusion automatically.

History and Examination.—A. H., white, a delivery man, aged 39, had no previous disease, except a dysentery while in service in the Philippines. Four years ago last May, during a fight, he was struck a severe blow in the left cheek. He was considerably indisposed after the fight and that night spat blood continuously. On the second day afterward a roaring in his head began which gradually grew worse. At night it was so intense that he could not sleep lying down and spent most of the time sitting in a chair. This condition continued for two months after the injury, when he was seized with a sudden pain in the right temple and the eyeball protruded to a marked degree. There was some diplopia and the superficial veins over the eye and about the temple were dilated. He worked off and on, but because of the increase of symptoms while working was unable to remain steadily at his employment. In July, 1913, when returning home from work one evening, he had a seizure which rendered him temporarily unconscious. He was removed to the emergency hospital, where he was given treatment for sunstroke. Later he was taken to the Sacred Heart Hospital into the service of Dr. B. H. Roark. Dr. Roark and Dr. D. S. Brazeau made a diagnosis of pulsating exophthalmos and I was called to perform the operation of tying the common carotid artery. It seemed to be an ideal case for the employment of the gradual occlusion clamp, so Dr. M. M. Patton was asked to make a clamp for us, similar to the ones that he and Dr. Neff had used in their experiments.

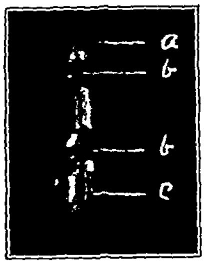

Fig. 1.—Neff's clamp after removal; *a*, hinge; *b*, rubber elastic; *c*, grooves in end of blades around which catgut was wound; catgut entirely absorbed.

Treatment.—The operation was performed by me, July 30, 1913, assisted by Dr. B. H. Roark, Dr. M. M. Patton and Dr. D. S. Brazeau. The right common carotid artery was exposed at the apex of the superior carotid triangle, and the clamp applied. Plain No. 2 catgut was wound around the exterior end of each blade, permitting compression of the artery, so that just a faint pulsation could be noticed distal to the clamp. The technic of adjusting the clamp was the same as that described by Dr. Neff in his article. A little difficulty was encountered from the fact that the ends of the clamp extended a little way beyond the artery so that it was necessary to suture a strip of the sternocleidomastoid muscle to the omohyoid muscle underneath the clamp, separating the carotid artery from the internal jugular vein and the vagus nerve. The incision was closed without drainage. After applying the clamp, the visible pulsation of the orbit disappeared and the bruit over the right side of the head was very much lessened. On the fourth day after the operation both the bruit and pulsation of the orbit had entirely disappeared, the patient declared himself free from the customary noise in his head and was able to sleep in a reclining posture without any trouble. He left the hospital on the tenth day and his symptoms seemed to have entirely subsided. An examination made September 30 showed that the exophthalmos was somewhat lessened, although the eyeball was still prominent, but there was no bruit and no visible pulsation of the orbit. The patient declared that the roaring in his head had entirely disappeared and he was doing some light work.

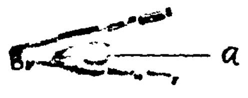

Fig. 2.—Clamp opened; *a*, segment of artery between the blades.

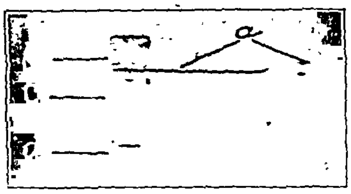

Fig. 3.—*a*, steel spring; *b*, German silver blades; *c*, groove for catgut; *d*, end of underlying blade turned up to prevent slipping of artery.

October 9 a second operation was performed and the clamp was removed. It had become encysted, and on account of its proximity to the trachea caused some annoyance during the act of swallowing. The encysted clamp could readily be felt in the tissues of the neck. An incision was made directly over the clamp through the fibrous capsule which had formed about it and which was lined with granulation tissue. The clamp (Fig. 1) had cut its way entirely through the artery and was easily lifted out of its capsule. No pulsation of the proximal end of the common carotid could be felt for some distance below the clamp. The severed end of the artery

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[1] This clamp was similar to the one used by Dr. J. M. Neff in his experiments, as reported in THE JOURNAL A. M. A., Aug. 26, 1911, p. 700.

thinned out into the fibrous capsule which surrounded the clamp. No hemorrhage was encountered and the wound was closed in the ordinary manner. An examination of the clamp after its removal showed that the two blades were very nearly approximated, though between them was a thin layer of tissue. This layer proved to be a very much thinned-out and apparently clean-cut segment of the artery, its length corresponding to the width of the blades of the clamp. The walls of the vessel were easily separated, as shown in Figure 2.

Because of the tendency of the projecting ends of the original clamp to press on the adjacent structures of the neck, particularly the internal jugular vein and the trachea, which made it necessary to protect these structures from the clamp by suturing together the muscles underneath it, it was suggested that the clamp might be modified so that this objection would be overcome. With this in mind, I devised a clamp consisting of a steel spring to lie parallel to the artery, with two 28-gauge German silver blades to fit over the artery. The principle of application is the same as that in the Neff clamp, that is, the grooves in the end of the blades are to be wound with plain No. 2 catgut, but the compression in this clamp is secured by means of the spring instead of by rubber bands, as in the original clamp. The exact size of the clamp and its method of application are shown in Figure 3

From our experience with this case, we would conclude that the clamp automatically occluding the vessel is the ideal treatment for aneurysm and has a decided advantage over the immediate ligation of the vessel

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CASE ILLUSTRATING VALUE OF ROENTGEN RAY IN DIAGNOSING OBSCURE FRACTURES

H. M. Stewart, M.D., Johnstown, Pa.

History.—A boy, aged 11, was referred by his family physician for a Roentgen examination with history of a fall from a swing, causing injury to elbow by direct force over the olecranon process.

Diagnosis.—Fracture of humerus at the base of the condyles as shown by Figure 1. Line of fracture somewhat longer behind than in front. Lower fragment drawn backward and upward by the action of the triceps, biceps and brachialis anticus muscles. Lower end of upper fragment projects in front of joint.

Treatment.—Fracture was thought to be reduced and put on an anterior angular splint before Figure 1 was taken. The case after examination was referred to a surgeon who under anesthesia reduced fracture and put on a straight splint, Allis' method, and Figure 2 was taken. It was found that slipping had occurred after reduction (which probably happened after putting on anterior angular splint) and it was decided to change to Jones' position. Figure 3 shows fracture reduced and dressed in acute flexion. Dressing was done in this position for four weeks, when gentle passive motion was begun. Figure 4 was taken three months later. It shows fragments in good apposition and line of fracture well united, which was further proved by perfect use of the arm.

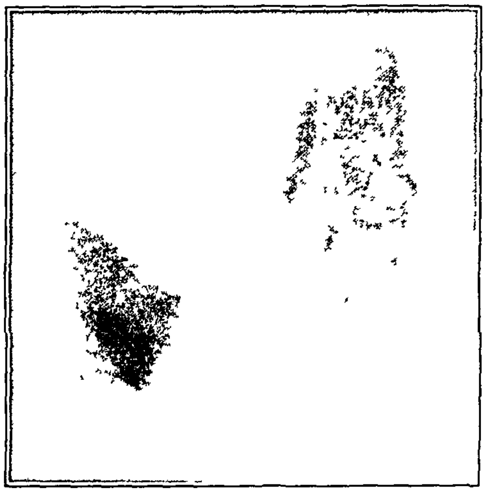


Fig 3.—Fracture reduced and dressed in Jones' position.

The history of the case illustrates that the general practitioner must realize the advantages of this method of diagnosis to his patient. The surgeon who neglects its use, neglects his interests and those of his patient. The best results can be

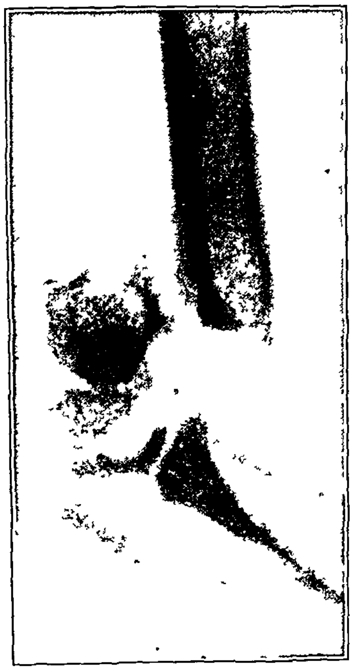


Fig 1 —Fracture of humerus above condyles thought to be reduced and dressed on anterior angular splint.

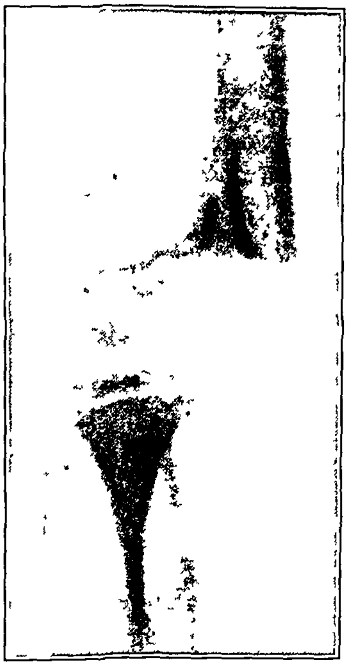


Fig 2 —Partially reduced under anesthesia and dressed on straight splint.

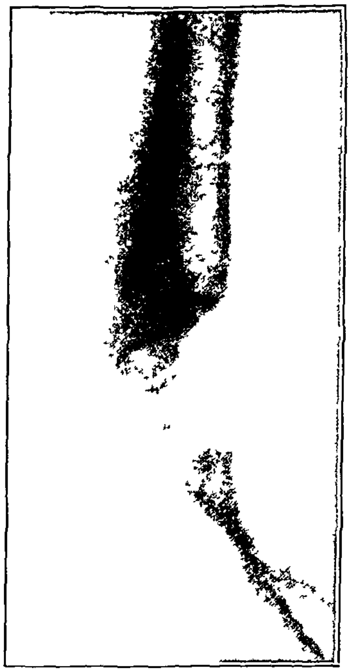


Fig 4 —Elbow three months later; perfect use of arm

obtained by making the roentgenogram before any attempt at reduction has been made as the knowledge gained prevents unnecessary trauma and manipulation, thereby greatly facilitating bony union and avoiding the danger of ununited fractures.

The practitioner must insist that a roentgenogram be taken in every case. This must be made and read by an experienced operator and is the evidence which must be preserved. A picture taken for diagnosis, together with a similar picture taken after the fracture is set, is the absolute evidence that his work has been properly done.

This case illustrates the accuracy in Roentgen diagnosis. The physician in every case to safeguard his and his patients' interests must insist on its employment. Thus with both protected, he can himself treat many more of his own patients and determine readily when operative intervention is necessary.

ABSCESS CAUSED BY FISH-BONE—HEMATEMESIS CONTROLLED BY HOT WATER

W. Hersey Thomas, M.D., Philadelphia

Assistant Professor of Surgery, Medico-Chirurgical College; Assistant Surgeon to the Medico-Chirurgical and Philadelphia General Hospitals

The cases about to be reported are from the surgical service of Dr. William L. Rodman, to whom I am indebted for the privilege of operating on and reporting them. Each is characterized by features which make it worthy of record. They occurred in the summer of 1912.

Case 1.—An abscess of the abdominal wall containing a fish-bone which had ulcerated through some portion of the gastro-intestinal tract, presumably the stomach.

History.—J. H., aged 45, a victim of chronic alcoholism, was admitted Sept. 17, 1912, with a mass in the abdominal wall just below the fundus of the gall-bladder. The liver was much enlarged but seemed to have no connection with the swelling. The mass was the size of a man's fist, evidently inflammatory and red, soft and fluctuating in the center. The notes of a prior admission six weeks earlier showed that the swelling was then present although it caused the patient no distress and showed no inflammatory action. The statements of the patient were unreliable but it seemingly had caused him great annoyance for several weeks prior to September 17.

Operation.—The case having been diagnosed as one of abscess of the abdominal wall, a vertical incision 3 inches in length was made over the swelling. After the escape of about 8 ounces of foul-smelling sanious pus, a slit-like opening 1 inch in length was discovered in the right rectus muscle, with hard, organized and almost cicatricial margins. The greater portion of the abscess cavity was beneath the rectus and a finger passed through the slit-like opening in this muscle discovered a long thin curved object (1/16 inch by 1⅞ inches) having the physical characteristics of a fish-bone. One end of the bone seemed to be loosely imbedded in the substance of the rectus and the free end pointed upward and to the left in the direction of the stomach. The peritoneal cavity was not opened on account of the danger of spreading the infection. The abscess cavity was gently scrubbed with gauze, well irrigated with hot normal saline solution, and packed with iodoform gauze.

Postoperative History.—The case passed out of my hands ten days later with the termination of the summer service. The bedside notes show an uneventful recovery. When seen one year after the operation the abdominal wall was in good condition and had caused him no trouble.

As no scar was present over the swelling prior to the operation, as the fish-bone was found beneath the rectus and as the greater portion of the abscess cavity was deeper than this muscle, the obvious conclusion was that the foreign body had ulcerated through from some portion of the gastro-intestinal tract.

I have just learned that a second fish-bone was removed from the left rectus by my colleague, Dr. W. P. Hearn, on Dec. 4, 1913. This was fifteen months after the first operation. The second fish-bone was surrounded by scar tissue and had recently caused the patient much discomfort.

Case 2.—Postoperative hematemesis following gastroplication and posterior gastrojejunostomy for a dilated and ptosed stomach, the hemorrhage being controlled by the direct application of hot water (130 F.) by means of a stomach-tube.

History.—R. B., a textile worker, aged 53, single, was admitted to the men's surgical ward of the Philadelphia General Hospital, July 27, 1912, complaining of sensations of painful weight and distress in the umbilical region soon after eating. He had had stomach trouble for more than thirty years. He did not use alcohol or tobacco. He gave a history of gonorrhea six years before, but none of lues. About a year before admission, he was jaundiced and at that time his stools were clay-colored. He was thin, nervous, and suffering from marked melancholia. His stomach was dilated, ptosed, and showed marked loss of motor power. Repeated analyses of the gastric contents were made. They usually gave a neutral or slightly acid reaction, contained no blood, no hydrochloric acid, showed a trace of lactic acid and had a total acidity which varied between 15 and 2. Oppler-Boas bacilli were absent. The red blood-corpuscles were usually about 4,000,000, the white blood-corpuscles 8,000; the hemoglobin percentage on admission was 80, but fell to 60 some weeks later. The urine was reported as containing nothing abnormal.

Operation.—When the abdomen was opened a markedly dilated and ptosed stomach was found, the greater curvature being two finger-breadths below the umbilicus and the lesser curvature displaced far below its normal position. As the gastrohepatic omentum was as thin as tissue-paper and the gastrophrenic and hepatoduodenal ligaments were not much more robust, shortening of these structures was impracticable; consequently a no-loop posterior gastrojejunostomy was performed and this procedure was followed by a plication of the anterior gastric wall from the cardia to within 2 inches of the pylorus. Six sutures of Pagenstecher linen thread were used for the gastroplication, the anterior gastric wall being thrown into folds parallel with the long axis of the stomach and the greater curvature drawn up as closely as possible to the lesser one. The length of the anastomotic opening between the stomach and jejunum was about 2 inches. During the entire operation the hemostasis was perfect and nothing occurred which could furnish a basis of explanation for the subsequent hematemesis.

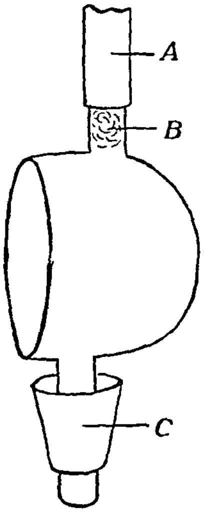
Hematemesis and Treatment.—When the patient was returned to the ward at 12:20 p. m. his temperature was 98.4 F., pulse 120 and respiration 20. At 1:30 p. m. the temperature was 98, pulse 104, respiration 20. At 2 p. m. he was asleep. At 3 p. m. he vomited 1 ounce of blood. At 3:30 p. m. he vomited 10 ounces of bright red blood; his pulse was still 120. He was then given an enema of 3 pints of normal saline solution at a temperature of 120 F. Soon after this he again vomited 10 ounces of bright red blood, the pulse rising to 128. At 5:15 p. m. he vomited 5 ounces of blood, his pulse remaining about the same as before. The saline enema was retained. At 6:15 p. m. the patient vomited 10 ounces of blood. At 6:35 p. m. a stomach-tube was passed and the stomach washed out with small quantities of normal saline solution at a temperature of 130 F. The funnel was held low, the fluid allowed to run in at any one time being small in amount to avoid a dilatation of the viscus. The washing was kept up until 4 quarts of the normal saline solution had been employed. There was no return of the hemorrhage. At 7:30 p. m. the patient was asleep. Pulse, 144. At 8:30 he was given hypodermoclysis (1 pint of normal saline with 1 dram of 1:1,000 solution of epinephrin). At 11:30 p. m. he had a hypodermic injection of atropin sulphate, 1/150 grain. After midnight he slept soundly most of the time but was disturbed occasionally by hiccup. During the next four days, he received enteroclysis twice daily (1 pint of normal saline). The subsequent recovery was uneventful and the patient was sent to the out-wards November 19. As the result of the operation the digestion was much improved and the distress after eating disappeared. The motor power of the stomach returned and the patient's color was markedly improved. His melancholia remained unchanged. The postoperative hematemesis in this case was severe, 36 ounces of practically pure blood being vomited during the first six hours after operation.

Hot rectal enemas (125 F.) for hematemesis were first advised by Tripier of Lyons in 1899, who considered the beneficial results obtained as analogous to those seen in epistaxis when the hands are plunged into hot water. To the best of my knowledge, the direct introduction of the hot water into the stomach for hematemesis was first employed with brilliant results by Dr. W. L. Rodman in 1902 in a case of hematemesis following posterior gastrojejunostomy when Tripier's and all other methods had failed. Since then Dr. Rodman has been equally fortunate with this procedure in a dozen cases of hemorrhage from the stomach from various causes. This case is an additional and striking example of the efficacy of this method.

A SIMPLE TECHNIC FOR BLOOD-CULTURES IN CHILDREN*

Jesse R. Gerstley, M.D., and Harry B. Fuller, M.D.
Chicago
Assistant in Pediatrics, Northwestern University Medical School, and Intern Sarah Morris Hospital for Children, Respectively

The difficulty of inserting a needle into the ulnar vein of a young infant has thwarted to considerable extent careful bacteriologic investigation of the blood during life. True, some work has been done. Jochman, Hektoen, Otten, Conradi, Spitta and many others report results, but in selected cases. Rotch and Low were successful in thirty-six out of forty-two attempts, but they found that in children under 4 years of age, in only 21 per cent. was it worth while even attempting. An important contribution is that of Churchhill and Clark, who made sixty-nine examinations in sixty-four cases; but these investigators also freely admit that to withdraw blood from a very young infant is often difficult if not impossible.



Apparatus for use in making blood-cultures in children: *A*, rubber tubing, to be used in suction by mouth; *B*, cotton; *C*, rubber cork to fit into test-tube of agar. The whole apparatus to be sterilized as it is after wrapping in gauze. This apparatus is practically identical with that used in the Finkelstein clinic, and described in this country by Blackfan, except that we found it more convenient to apply suction by mouth than by means of a pump.

To overcome this difficulty various modifications have been suggested. Delestre obtained from 1 to 2 c.c. of blood by incising the great toe. Rotch and Low mention Petruschky, who tried cupping, but give no reference and rule out his and Delestre's results on account of contamination. Slavyk took blood from the ear. Rotch and Low in some cases dissected out the ulnar vein under anesthesia. In the European clinics we have often seen the veins of the head used, usually the superficial temporal, with good results. Certainly the greatest improvement in our technic is that offered by Martha Wollstein and Edward Morgan. They wrap the patient in a sheet to secure the arms at the sides, lay him on a table with the head on one side and hyperextended, and during a paroxysm of crying when the external jugular is distended, use it as a source of their blood. They withdraw about 1 c.c. Their children varied in age from 10 days to 4 years. They made 100 cultures in eighty children, of which 32.5 per cent. were positive. In four of thirteen cases of lobar pneumonia, six of twenty-six cases of bronchopneumonia and nine of fourteen cases of empyema bacteriemia was shown. In their work, however, Wollstein and Morgan found some difficulty with fat, pasty-complexioned children and were unable to withdraw blood from their veins. Is it not possible to devise a technic to include these children also?

In Berlin, where the Wassermann test is done by the municipal laboratories, from 1 to 2 c.c. are required, and in the Finkelstein clinic this blood is obtained by means of a modified Bier's pump. It occurred to us that this method might also be used to solve some of these problems of obtaining blood. Through the courtesy of Dr. I. A. Abt we procured some specially made Bier's cups, and we wish to offer our results with these as a preliminary report. We must emphasize that we claim no originality in using the method of cupping to obtain blood, as this method has certainly been used for some time in the Finkelstein clinic and also has been reported from an American clinic by Blackfan; but so far as we know, no one has employed this idea for blood-culture work—doubtless fearing contamination. To overcome this objection one must develop a technic capable of giving sterile cultures from normal children—to be certain that the field is sterile. In all we have used twenty-four infants, all under 1 year of age, some only a few days. In our first few attempts the agar-plates were contaminated with a few colonies of staphylococci. A slight change in technic overcame this difficulty, however, and since then all our plates have been uniformly sterile.

The method is simple, requiring almost no preparation. The best point for the incision we found to be in the back between the vertebral column and the upper part of the scapula. It should be from 1 to 2 cm. in length and deep enough to enter the subcutaneous tissue. Sterilization of the skin is accomplished by first cleansing a considerable area with alcohol, then applying a wide area of tincture of iodin, allowing it to remain three minutes and reapplying. Lastly, one removes iodin from the skin over which the cup is to be placed by tooth-pick swabs and alcohol. The latter prevents any iodin entering the culture-medium.

The apparatus (see illustration) ready for use is wrapped in sterile gauze and sterilized with dry heat. Just as the incision is made an assistant unwraps the apparatus, fits it to a tube of melted agar cooled to 45 C. (113 F.), and it is applied. Slight suction for a minute or so will readily give 1 to 2 c.c. of blood. While the agar is being plated out, all superfluous iodin is removed from the skin to prevent blistering, and a gauze dressing applied. The wound heals in a few days. In a few cases we tried injection of Schleich solution, but this constricted the blood-vessels too much, and, strange to say, without its use, except for the immediate pain of the incision, the infants seemed to pay little attention to the procedure.

In conclusion we wish to state that we do not advocate this as a routine method. If it is possible to use the ulnar veins, they should be used. If the temporal veins are large, they should be used. By all means the external jugular should be tried, as recommended by Wollstein and Morgan; but if all these methods have been tried and found impossible, then we think that the technic which we have shown will probably solve the difficulty.

We wish to express our thanks to Dr. I. A. Abt, Dr. J. Hess, and Dr. E. Lackner for the use of their cases.

TENSION SUTURES

E. Viko, M.D., Salt Lake City

The aponeurosis and deep fascia are acknowledged to be the strongest structures of the abdominal walls. Therefore, after laparotomy, secure and close apposition of the cut edges of these structures is made in order to prevent postoperative hernia.

For the purpose of relieving the usual continuous absorbable, aponeurotic suture from violent strains, such as from coughing, vomiting, etc., tension or reenforcing sutures are employed. These are figure-of-eight or through-and-through sutures taking in the aponeurosis, subcutaneous tissue and the skin.

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* From the Sarah Morris Children's Hospital; read before the Chicago Pediatric Society, Oct. 28, 1913.

If the continuous aponeurotic or deep fascia-suture could be put on the slack or relieved from all strain and to merely act as an apposition suture, this would secure an ideal condition for wound healing. The figure-of-eight or through-and-through sutures fall short of this ideal, as they take in a very limited area and act mainly as reenforcing sutures at the spot where inserted.

For some time I have been using with great satisfaction and a sense of security what might be called crossed mattress-sutures. They take in a large area of the aponeurosis, and taking the stain off from the continuous suture, act as true tension sutures.

Another desirable action of this suture is: As it firmly holds together the cut edges of the subcutaneous tissue and skin during healing, no ugly, broad scar results, but only a faint streak.

It is quickly placed as follows: Penetrate skin and subcutaneous tissue at *a* in illustration, emerge in front of aponeurosis at *b*, cross over in front of suture line and penetrate aponeurosis at *c*, emerge at *d*, cross over in front of suture line and penetrate subcutaneous tissue at *e*, emerge through skin at *f*. The opposite suture is placed in a similar manner. Two or three pairs are used. After the subcuticular or continuous horsehair suture is taken, the crossed mattress-sutures are tied over rolls of gauze. They are readily removed by cutting one limb of each suture close to the skin.

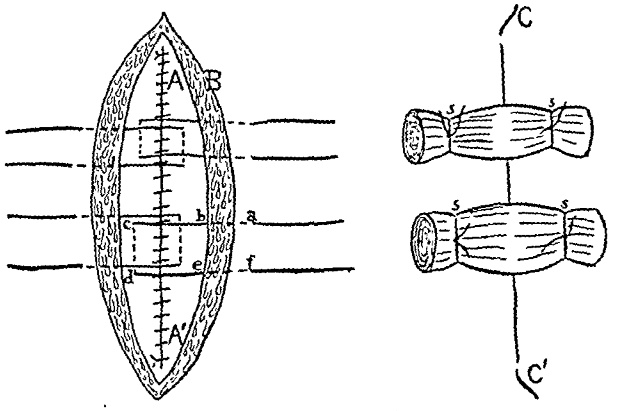

Diagram showing method of placing tension sutures. *A*, aponeurosis; *B*, skin and fat; *A*, *A'*, continuous suture of aponeurosis; *a*, *b*, *c*, *d*, *e*, *f*, points of entrance and emergence of crossed mattress-sutures; *C*, *C'*, subcuticular suture; *s*, *s*, tension sutures tied over rolls of gauze.

THE PREPARATION OF DRIED "ZYMASE" FROM YEAST, FOR USE IN FERMENTATION TESTS OF URINE *

Jacob Rosenbloom, M.D., Ph.D., Pittsburgh, Pa.

On account of the well-known fact that, by fermentation with yeast, glucose is decomposed into alcohol and carbon dioxid, we have at present the excellent fermentation test for glucose. This method is not only valuable for qualitative purposes to distinguish the kind of reducing substance present in the urine but is of great use for the quantitative estimation of glucose.

The method has one disadvantage from the necessity of using perfectly fresh yeast in its performance. I have, however, devised a method to isolate the enzyme from the yeast in a dried condition and have found that the enzyme in this state is still active five months[1] after its preparation.

Grind up thoroughly in a mortar three cakes of compressed yeast with about 200 c.c. of water and 10 gm. of sand. Press this fluid through cheese-cloth and add the expressed liquid, with constant stirring, to about five times' its volume of 95 per cent. alcohol. Allow the precipitate to settle, filter and wash the precipitate on the filter-paper with about 50 c.c. of alcohol followed by 50 c.c. of ether. Allow the precipitate to dry in the air after spreading it on a glass plate. Powder and put residue in a tightly corked *amber* bottle. To use this powder to ferment urine, take about as much as the end of a medium-sized knife blade will hold, mix it thoroughly with the urine to be tested and pour the mixture into a fermentation tube.

I have found that certain well-known conditions are not observed by many workers when using the fermentation test, so it may be of some service to call attention to these details.

1. The urine to be tested, freed from protein if found present, must previously be slightly acidulated with 1 per cent. tartaric or acetic acid solution. This lessens the possibility of bacterial fermentation; also some of the carbon dioxid of the urine may have chemically combined with the monohydrogen sodium phosphate that is present, forming dihydrogen sodium phosphate and sodium bicarbonate. This source of possible error is avoided by the acidulation which converts the monohydrogen salt into the dihydrogen salt.
2. The urine should be boiled after acidulating to dislodge any combined carbon dioxid.
3. Besides the fermentation test applied to the urine, two control tests should be made, the one with normal urine to which a little glucose is added to prove the activity of the yeast, and another of normal urine alone, to prove by the absence of gas, that there is no self-fermentation of the yeast. With these points in mind it will be found that the fermentation test can always be relied on and will not be found wanting.

5659 Beacon Street.

Therapeutics

PROTEIN POISONING—ANAPHYLAXIS—URTICARIA

PROTEIN POISONING

The fact that bacteria could cause protein poisoning was first noted and the condition described, in 1903, by Victor C. Vaughan of Ann Arbor. Protein poisoning is the cause of most urticarial conditions, of many of the skin eruptions, of many of the simple, so-called *febricula* (a name applied to a fever lasting one or two days with no positive diagnosis determinable), and all of these disturbances are really forms of anaphylaxis.

Some protein poisons may cause a lowered or subnormal temperature rather than fever. This is apparently due to a marked dilatation of the peripheral blood-vessels, especially of the splanchnic area, similar to that in shock. With other protein poisonings there may be, for several days, an irregular temperature with morning remissions. If such poisonings persist and the toxins are not rapidly expelled, neutralized or destroyed, there will be an increased elimination of nitrogen and a progressive loss of weight.

A scientific discussion of these protein poisonings has recently been presented by Vaughan,[1] and should be read by every physician, as a thorough understanding of the causes of these disturbances of the blood and nervous system will lead to proper treatment.

The symptoms of many diseases are due to the so-called "parenteral" digestion of proteins. Hay-fever and paroxysms of asthma are caused in sensitive individuals by the pollen of different plants, the emanations from different animals, or the dust or odors of many kinds of substances. Any susceptible individual may be sensitized, so to speak, by one or more of these irritant causes and not by others. The inhalation of some substances in almost intangible amounts may cause serious inflammation of the upper air-passages and even of the bronchial tubes.

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* From the Biochemical Laboratory of the Western Pennsylvania Hospital, Pittsburgh, Pa.

[1] It is possible that I shall find that this preparation will be active for a much longer time, but as five months have passed since its preparation I think the value of this method has been demonstrated.

[1] Vaughan, Victor C.: The Protein Poison and Its Relation to Disease, The Journal A. M. A., Nov. 15, 1913, p. 1761.

Many drugs taken internally may sensitize individuals who have peculiar idiosyncrasies against them, and may cause, primarily, gastric and duodenal irritation, and secondarily, disturbances similar to protein poisoning (such as urticaria and swelling of the mucous membranes), which may become serious, as occasionally seen with quinin, salicylates, antipyrin and other coal-tar products. Many of the so-called genito-urinary stimulants of the copaiba class may cause considerable irritation and eruption of the skin.

Living bacterial cells, like other living cells, must form ferments to prepare their food for absorption. Consequently, as described by Vaughan, for a given bacteria to be poisonous to the human animal, for instance, it must have the ability to split up and feed on the proteins of the human being; otherwise bacteria cannot grow and cannot harm the host. Another prerequisite to such poisonings is that the ferments in man must not be immediately destructive to the invading bacterium, although ultimately antibodies may be formed in sufficient amounts to destroy it. A bacterium, then, able to digest the proteins in man renders this host susceptible to its poisoning, unless he has been previously protected either by a previous infection from the specific bacterium or by a previous inoculation or vaccination with the germ or its products which so promotes the formation of antibodies or antiferments that it renders the individual immune. This is the scientific basis of vaccination and protective inoculation.

The value of autogenous vaccine treatment, or, at times, stock vaccine treatments of local infections, is due to the fact that the general system is not producing ferments sufficient to eradicate the special bacterium and its poison, and the inoculation so stimulates the general production of antibodies or ferments, that the local disease is stopped and later eradicated. On the other hand, if a person is suffering from a general poisoning or infection, such vaccines are of doubtful value or may be actually harmful by overstimulating the already worn-out antagonistic cells, and the individual is thus really injured by such vaccination. Therefore the frequent and careless use of vaccines is deplorable and often inexcusable.

ANAPHYLAXIS

To be closely associated in discussion with protein poisoning, urticaria and the conditions that have as a symptom an eruption of the skin, is the condition of hypersensitiveness termed anaphylaxis. If proteins are naturally digested in the stomach and intestines and are absorbed only as the molecular forms that normally reach the blood, no sensitizing or anaphylaxis or intoxication will occur. If, however, the proteins are absorbed before they reach their final disintegration stages and are then digested parenterally, that is, outside of the intestine, or if they reach the blood through other channels or are injected directly into the tissues, such poisoning or "reaction" occurs, attended by more or less fever, nervous irritability, increase in the number of the white corpuscles, changes in the blood-plasma, kidney irritation, and frequently diarrhea. The system, however, soon produces active or immune bodies to combat the specific ferment.

The length of time before the occurrence of hypersensitiveness or sensitization varies; the poisoning may be acute, as in so-called "ptomaine poisoning" or in that which occurs from some such toxin as is found in toadstools; or it may require a number of days for the person affected to be sensitized. Sensitization from a serum injection or from the absorption of some protein irritant may not happen until after a series of days, perhaps a week, and this sensitization will often not be recognized until a second injection (the intoxicating dose) of the same serum is administered, or until more of the same protein poison is absorbed, when reaction becomes evident and is sometimes serious in its outcome. Therefore, it cannot be too carefully noted that injection of prophylactic or antitoxic serums should ordinarily not be repeated too long after the first injection has been given. This is not always true of all antitoxins or all bacterins, but it is more or less constantly in evidence. Sometimes the system becomes tolerant to this irritant, and a larger dose, given to obtain a desired reaction, will be borne. In other instances the patient becomes hypersensitive, and the repetition of a previously harmless dose may cause an intense reaction. This has occurred with diphtheria antitoxin a number of times, and would occur with any horse-serum in patients who are susceptible to, and are always hypersensitized by, emanations or dust from horses.

Persons peculiarly susceptible to horse-serum may develop bronchial edema and die of suffocation within a few minutes or hours after an injection of diphtheria antitoxin; or, in certain instances, they may not develop the asthma, urticaria, joint-pains and fever until after a series of days. Such late symptoms are not generally dangerous, although albumin may appear in the urine, but generally the kidneys rapidly recover and all the symptoms disappear. Other persons may have an intense local reaction to an injection of antitoxin or vaccine out of all proportion to the injury caused and later may show some of the general symptoms. Such cases are very troublesome and more or less serious, but rarely cause death.

When antitoxin is indicated in diphtheria, or horse-serum in hemorrhage, one should be sure to inquire whether or not the patient is an asthmatic or a sufferer from hay-fever, and especially if horse emanations cause either of these conditions. If such is the case, all horse-serums are positively contra-indicated. Even severe diphtheria must be combated without the aid of antitoxin, as its use may cause the death of such patients.

This reaction of the blood, that is, anaphylaxis, to different poisons, seems to be the cause not only of the symptoms which follow vaccination against small-pox, typhoid fever and other diseases or infections, but also of the symptoms of hay-fever induced by different pollens, varieties of dust or odors. It is the cause of asthma in many persons; of the urticaria produced in susceptible individuals by shell-fish, buckwheat or strawberries, and of the symptoms of sensitization or anaphylaxis which sometimes occur even from such ordinary foods as veal, pork, eggs, some kind of cheese and milk.

It seems also, with our greater knowledge of this blood disturbance, that quite probably the skin eruptions of the exanthems, of typhoid fever, and even of primary syphilis may be due to this hypersensitizing of the blood by the proteins of the specific bacteria. Our recognition of the anaphylactic temperature caused by serums and toxins suggests that the fever process of the various infections may also be due to the protein poisoning caused by the germ of infection.

Discussion of the treatment of these specific infections would lead us astray, but the symptoms attributed to the poisoning protein in the blood are more or less the same, namely, fever, irritation of the central nervous system, cutaneous irritability and perhaps eruption, more or less muscle pains and concentration of the urine with kidney irritation, lumbar backache, and either constipation or a diarrhea that shows bowel irritation without complete evacuation. In some instances vomiting is present, especially in children, and headache is frequent or constant, dependent on whether the absorption of the poison is intermittent or continuous.

Whatever the infection or irritant that causes these symptoms may be, the general treatment is the same, namely, whatever of the poison is still in the intestine should, if possible, be removed by a free, non-irritating catharsis by castor oil, calomel, or a saline, as advisable. It is quite possible that more of certain kinds of intestinal poisons may be absorbed under the influence of an oil than would be if a saline is administered. If it is a poison to which the patient is susceptible, he certainly should receive no more of the irritating food. If the disturbance is due to the proteins of some specific germ, he should receive only such nutriment as is easily digested, and therefore less likely to furnish incompletely disintegrated protein products for absorption, thus to add more irritants to the already disturbed blood. Consequently, individual idiosyncrasies should be learned and the signs of indigestion noted; the foods that probably will digest most readily and are not too rich in proteins are the only ones that the patient should be allowed.

The next object is to dilute the poison already in the blood by the administration of large amounts of water, perhaps medicated, acidulated, alkalized, carbonated or plain, as seems indicated. The greater the amount of urine passed, and the freer the perspiration, the sooner, in all probability, will the toxins be eliminated, unless they are produced in overwhelming quantities.

If there is an antitoxin for the condition, it should, of course, be administered. The skin should be frequently soothed with warm water(often best made alkaline with sodium bicarbonate) sponging and then perhaps powdered with a simple bland powder, such as starch. An irritated, erupted skin should not be freely sponged with pure alcohol, which dries the skin and will cause more irritation. The more moisture there is in a skin with an urticarial or exanthematous eruption, the less is the irritation and itching. The temperature is also more rapidly reduced by evaporation. If the fever is excessively high and must be reduced, of course the usual hydrotherapeutic measures should be inaugurated.

CALCIUM

The nutritional value of calcium and its necessary participation in many functions of the body have been recently described.[2] The relationship of diminished calcium content of the blood to some angioneurotic edemas and to some of the urticaria-like localized swellings and edemas, has been lately shown by investigators. It seems to be a clinical fact in many cases that these exudates and symptoms of anaphylaxis are prevented, or are quickly improved, by the administration of calcium. Experimental evidence as to the value of calcium in preventing anaphylaxis is rather contradictory.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLE HAS BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. ITS ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

ELARSON.—Strontium Chlorarsenobehenate.—Elarson is the strontium salt of chlorarsenobehenolic acid, containing about 13 per cent. of elementary arsenic and about 6 per cent. of chlorine.

Action and Uses.—Elarson has the action of arsenic but the arsenic being in lipoid-like combination is said to be much better utilized in the system and to exert its therapeutic effects in smaller doses than other organic arsenical preparations. It also possesses the advantage of being relatively free from irritating action on the gastro-intestinal tract.

Elarson has been employed with excellent effect in anemias due to various causes, such as chlorosis, and seems to be beneficial in diseases of the skin, phthisis, malignant disease, chorea, neuralgias, etc. By its action in improving the condition of the blood it appears to exert a beneficial influence in some cases of epilepsy.

Dosage.—The average adult dose of elarson is 0.008 gm. (1/8 grain), three to five times daily, best taken about an hour after meals. Elarson is marketed in the form of tablets only. (See below.)

Manufactured by the Farbenfabriken vorm. Friedr. Bayer & Co., Leverkusen, Germany (The Bayer Company, Inc., New York). U. S. patent applied for. U. S. trademark No. 91419.

Elarson Tablets.—Each tablet contains elarson equivalent to arsenic 0.0005 Gm. (1/128 grain).

Elarson is prepared by treating behenolic acid with arsenic trichloride and converting the oily acid thus formed to the solid strontium salt.

Elarson is an almost white, amorphous, tasteless powder, insoluble in water and but slightly soluble in alcohol and ether.

On heating it decomposes with evolution of volatile organic substances and elementary arsenic, frothing and turning black.

If elarson is shaken with water (1:20) the filtrate should not change litmus, become turbid on addition of silver nitrate or barium chloride solution nor leave a residue on evaporation.

If 2.0 Gm. of elarson be boiled with 25 Cc. of a 15 per cent. alcoholic solution of potassium hydroxide for about one-half hour, using a reflux condenser, and if to a portion of the alcoholic fluid, which has been diluted with water, diluted sulphuric acid is added and then filtered, half of the filtrate saturated with hydrogen sulphide, should yield a voluminous yellow precipitate of arsenic sulphide. If to the other half of the filtrate nitric acid and silver nitrate solution be added a precipitate of silver chloride should be formed. If the second portion of the alcoholic solution be diluted with water, acidified with dilute hydrochloric acid and filtered, the filtrate should yield a precipitate of strontium oxalate on addition of ammonium hydroxide and ammonium oxalate solutions.

Medical Education.—A debt of gratitude and unstinted praise is due the Council on Medical Education of the A. M. A. for their exhaustive analysis of medical education in this country, and to the Carnegie Foundation for the Advancement of Teaching for the study of medical education in England, Germany and France. The results of these investigations will have a pronounced influence on the further development of medical teaching in this country. The normal influence of an education that is obtained in an atmosphere that abounds in honest endeavor, conscientious appreciation of the needs of the student and a high conception of medical ideals cannot but leave its indelible impress, to accompany the physician long after he has wandered afar, beyond the guidance and control of his early mentors.—Arthur J. Patek, M.D., *Wisconsin Med. Jour.*

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[2] Calcium, Therapeutics Department, THE JOURNAL A. M. A., Jan. 17, 1914, p. 206; Jan. 24, 1914, p. 298.

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[illegible] ASSOCIATION

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[illegible] the reading-matter.

[illegible] JANUARY 31, 1914

AVAILABILITY OF NUTRIENTS FROM PLANT SOURCES

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It is evident from the foregoing that, considered solely from the standpoint of economy, it would represent a decided advantage if man could utilize more directly the energy which he now commonly secures only after it has been converted by animals, with great incidental losses, into the forms that suit his present preferences, if not his absolute physiologic needs. Our vegetarian friends will at once remind us that it has repeatedly been found quite compatible with health and happiness to provide for human nutritive needs directly and entirely from the plant kingdom. Despite this fact, which must readily be admitted, it is undoubtedly true that the domestic animals still are provided from the plant world with various foods of which man is at present unable to avail himself.

Hitherto the contributions of the vegetable kingdom to the dietary of human beings have consisted essentially of those parts of plants which serve as storage depots—as reserve supplies for subsequent growth. Seeds, roots, tubers and fruits represent the chief types of plant products which find their way into the ration of mankind. These are by no means all well adapted for direct food-service in the human alimentary apparatus; but the progress of science and the industries and the ingenuity of the domestic arts have little by little so improved the form in which such materials as cereals, nuts, etc., are presented for human consumption, that their utilization has become greatly enhanced. Processes for grinding and comminution, the almost indispensable precautions of cooking and baking—all of which we rarely stop to consider as innovations of human ingenuity—are not natural operations; on the contrary, they have been evolved by the genius of man so that he might readily take direct advantage of the energy which, in the cruder forms in which Nature has stored it, some animals are better equipped to utilize. The inherent indigestibility of "raw" starch, as exemplified by the potato, is overcome by cooking; the further comparative resistance of cereal grains to permeation by digestive juices is minimized by milling and subsequent disintegration by cooking. The history of the struggle to wrest energy from the native plant-products without the expensive necessity of calling on the herbivorous animal to act as an intermediator in the process, has been a long one.

There are, however, still other forms of plant structures of which the herbivora make use freely in nutrition, but which mankind has not yet employed with signal success in so far as extracting energy freely from them is concerned. The green parts of plants, rich in such protoplasmic constituents as protein and nuclear material, present the nutrients so completely enclosed in walls of cellulose that they can be utilized only to a small degree and with enormous alimentary waste. We may soften them by cooking and comminute them by mastication, without liberating their foodstuffs to any adequate extent. Man lacks a cellulose-dissolving digestive agent; and hence he cannot depend on the fermentative processes which, in the large cecal reservoirs of herbivorous animals, facilitate the dissolution of the cell-walls of the green fodders.

Friedenthal,[1] in particular, has cherished the belief that it may be possible to accomplish for the so-called green vegetables, rich in plant protoplasm, a sort of comminution which would disintegrate the resistant cell-walls and impermeable structures and render the contents more available for digestion and assimilation by man. The technic of such manipulations, in the case of products like spinach or lettuce or string-beans or any of the large list of green vegetables, involves desiccation and is by no means as easy as might appear at first consideration; for the degree of subdivision called for is both minute and complete, if success is to be attained.

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Professor von Bergmann and Dr. F. W. Strauch[2] of the Municipal Hospital in Altona have tested the validity of Friedenthal's scheme by studying the utilization of plant products prepared in the form of impalpable powders by his process. The outcome has been decidedly gratifying and will, we believe, pave the way for useful innovations in the use of vegetable foods. For example, Strauch found the utilization of bean powder fed to men in the form of a purée, far greater than is true of string-beans served in the usual form. Spinach, carrots, cabbage, etc., similarly prepared, were enjoyed with singular freedom from the troublesome intestinal symptoms which so often follow their use. In such gastric and intestinal diseases as ulcer, colitis and typhoid, in which these "fresh vegetables" are often excluded from the dietary, the comminuted-powder products were employed with impunity and to advantage. The usefulness of these familiar plant-products, so often classed as offenders against the alimentary comfort of those who ingest them, appears to have been augmented by successful innovation in their preliminary treatment. A group of vegetable products has thus been converted from a mechanical agent, serving largely as so-called roughage, into a not unworthy source of nutriment. The efficiency here recorded is rendered the more striking by the report from the Altona clinic that 300 gm. (10 ounces) per day of vegetable powder, equivalent to 3 kg. (6 pounds) of the fresh plant, may easily be assimilated—an amount which in the natural state could not be tolerated. It is not too much to assume that possibly by similar suitable preparation, such plant products as the grasses, which have hitherto been excluded from the dietary of man, may yet be used as direct sources of energy in human nutrition.

OLD-TIME MEDICAL HUMOR

It has been said that there are altogether only twenty-nine jokes in the world, and that most of these can be found in the specimens of Roman humor which have been preserved for us by the satirists and wits of the classical and postclassical periods. How far this may be true is a question, but an excellent illustration of it is afforded by Dr. Raymond Crawfurd's recent article on "Martial and Medicine."[3] Martial was the acutely observant satirist and critic of a city that in the course of a little more than a century had risen in population from less than a hundred thousand to nearly two million. Into that city the wealth of the world was being poured, and to it came men of all nations seeking to get into the center of things; and his epigrams come home to us with greater force from the fact that many of us live under circumstances much resembling those in which Martial lived and wrote. Some of the oldest jokes known to medicine and dentistry are found in these satires. Pathologic conditions that are usually thought of as having been much more recently noted were humorously and satirically touched on by Martial nearly two thousand years ago. All of the references are distinctly modern in flavor, and as this is the time of social reunions and banquets which physicians must often attend and at which they sometimes make addresses, a few of these old jokes may be useful.

The old saying, "The surgeon buries his mistakes," which probably first arose through medical jealousy, has its exemplification in Martial's pun on the surgeon turned undertaker.

> Diaulus undertook of late
> The operator's art,
> But now prefers to operate
> The undertaker's part.

The fact that there was clinical teaching and that patients complained of abuses in it is shown by one of Martial's epigrams. The lines contain history and a warning that the patient's feelings must be considered if the really great good that should be secured from clinical teaching is to be obtained.

> I lay ill; but soon Symmachus sought me
> With a class of a hundred young men
> Whose hundred cold paws have brought me
> The fever I lacked till then.

Martial ridicules the false adornments worn by the women of his time. He originated the quip that "they lie who say that Phoebe dyes her hair black—she buys it black." His couplet on the teeth belongs in this class.

> Laecania has white teeth, Thais brown.
> How comes it? One has false teeth, one her own.

Unfortunately, there were no means of replacing the eyes lost through the many eye diseases of Martial's time. Ambroise Paré, in the sixteenth century, was the first to make a regular use of false eyes. Martial says of one of the fair ladies of Rome:

> False teeth and hair flaunts Laelia shamelessly
> But not false eyes, for these she cannot buy.

Crawfurd quotes epigrams from Martial concerning two affections that are of special interest at present. While the poet pokes fun at the oculists and indeed seems to have a little grudge against specialists, he pictures one of them as warning his patient that if he

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[2] Von Bergmann, G., and Strauch, F. W.: Die Bedeutung physikalisch fein verteilter Gemüse für die Therapie, Therap. Monatsh., 1913, xxvii, 29. Strauch, F. W.: Fein zertheilte Pflanzennahrung in ihrer Bedeutung für den Stoffhaushalt, Ztschr. f. exper. Path. u Therap., 1913, xiv, 462.

[3] Crawfurd, Raymond: Martial and Medicine, Lancet, London, Dec. 6, 1913, p. 1643.

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SATURDAY, JANUARY 31, 1914

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OLD-TIME MEDICAL HUMOR

It has been said that there are altogether only twenty-nine jokes in the world, and that most of these can be found in the specimens of Roman humor which have been preserved for us by the satirists and wits of the classical and postclassical periods. How far this may be true is a question, but an excellent illustration of it is afforded by Dr. Raymond Crawfurd's recent article on "Martial and Medicine."[3] Martial was the acutely observant satirist and critic of a city that in the course of a little more than a century had risen in population from less than a hundred thousand to nearly two million. Into that city the wealth of the world was being poured, and to it came men of all nations seeking to get into the center of things; and his epigrams come home to us with greater force from the fact that many of us live under circumstances much resembling those in which Martial lived and wrote. Some of the oldest jokes known to medicine and dentistry are found in these satires. Pathologic conditions that are usually thought of as having been much more recently noted were humorously and satirically touched on by Martial nearly two thousand years ago. All of the references are distinctly modern in flavor, and as this is the time of social reunions and banquets which physicians must often attend and at which they sometimes make addresses, a few of these old jokes may be useful.

The old saying, "The surgeon buries his mistakes," which probably first arose through medical jealousy, has its exemplification in Martial's pun on the surgeon turned undertaker.

> Diaulus undertook of late
>   The operator's art,
> But now prefers to operate
>   The undertaker's part.

The fact that there was clinical teaching and that patients complained of abuses in it is shown by one of Martial's epigrams. The lines contain history and a warning that the patient's feelings must be considered if the really great good that should be secured from clinical teaching is to be obtained.

> I lay ill; but soon Symmachus sought me
>   With a class of a hundred young men
> Whose hundred cold paws have brought me
>   The fever I lacked till then.

Martial ridicules the false adornments worn by the women of his time. He originated the quip that "they lie who say that Phoebe dyes her hair black—she buys it black." His couplet on the teeth belongs in this class.

> Laecania has white teeth, Thais brown.
> How comes it? One has false teeth, one her own.

Unfortunately, there were no means of replacing the eyes lost through the many eye diseases of Martial's time. Ambroise Paré, in the sixteenth century, was the first to make a regular use of false eyes. Martial says of one of the fair ladies of Rome:

> False teeth and hair flaunts Laelia shamelessly
> But not false eyes, for these she cannot buy.

Crawfurd quotes epigrams from Martial concerning two affections that are of special interest at present. While the poet pokes fun at the oculists and indeed seems to have a little grudge against specialists, he pictures one of them as warning his patient that if he continues to indulge in liberal potations he will surely lose his sight, as dimness of vision has already begun. The craving is too strong for the patient and his sight is lost. Dr. Crawfurd has suggested that the verses should be labeled "Albuminuric Retinitis."

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[2] Von Bergmann, G., and Strauch, F. W.: Die Bedeutung physikalisch fein verteilter Gemüse für die Therapie, Therap. Monatsh., 1913, xxvii, 29. Strauch, F. W.: Fein zertheilte Pflanzennahrung in ihrer Bedeutung für den Stoffhaushalt, Ztschr. f. exper. Path. u. Therap., 1913, xiv, 462.

[3] Crawfurd, Raymond: Martial and Medicine, Lancet, London, Dec. 6, 1913, p. 1643.

Aulus, there's Phryx, that fine old winebibber
Blind of one eye and of the other blear:
His doctor Heras said, "Drop alcohol
For if you take it, you'll not see at all."
Laughing, Phryx wished his eyes a last good-bye
And ordered cups to be mixed frequently:
D'you want to know the consequences? Why,
'Twas wine to Phryx, but poison to his eye.

Martial seems to suggest that chronic constipation played a large part in the illnesses of Rome and that it could be told from the appearance of a man that he was suffering from this disorder. The ordinary remedies included lettuces, mallows and other vegetables having a large residue. The use of prunes was evidently a favorite recommendation for this condition. Martial's two epigrams are thus quite up to date.

Use mallows and use lettuces
That soften defecation:
For you present the facies
Of chronic constipation.
Try prunes, they're sold wrinkled and old
Brought from some foreign nation:
They'll be of use in setting loose
Thy belly's constipation.

Martial seems to have known the pathologic disturbances which result from excessive use of rich food and free indulgence in wine. Dr. Crawfurd suggests that the poet actually seems to hint in one passage that purin bodies are a cause of gout and that hepatic inadequacy is associated with the disease.

Of hares, and mullet, and sow's teat
What's the termination?
Bilious color and the feet
Racked with inflammation.

Diseases due to the disturbances of metabolism consequent on luxurious habits had multiplied greatly in Rome. What was called gout, that is, pains and aches in joints and muscles, the various forms of arthritis and the vague conditions that we now call rheumatism, had also greatly increased. Pliny, who was an older contemporary of Martial, says: "Gout used to be an extremely rare disease, not in the times of our fathers and grandfathers only, but even within my own memory." Although the gouty were usually rich and of luxurious habits, some of them, evidently, were not good pay.

Diodorus, while he sues in court,
On gouty feet can stand:
But when the lawyer's bill is brought
The gout sets fast his hand.

Evidently many counterparts of the men and manners of Martial's time could be found to-day.

WORK DURING PREGNANCY AND WEIGHT OF THE CHILD

General observation indicates that the children of working women are well developed and as strong or even stronger than the children born to women of leisure, i. e., provided the women are not too heavily taxed during the last months of pregnancy. The mothers also pass through labor as easily and safely as those who have been spared every hardship. The influence of the pregnant woman's occupation and mode of life on the intra-uterine development of the child, however, is a matter of great practical importance. Is the child of a woman who works through pregnancy actually less well equipped in the struggle for life than the child of a woman who has been able to pass through her pregnancy without hard physical work? The literature which is usually quoted seems to show the importance of rest during the last months of pregnancy. Thus Pinard gives as the average weight of the babies of women who worked up to the time of delivery, 3,010 gm. (about 6½ pounds), while the average for those born of women who had been in a maternity home for two or three months before delivery was 3,290 gm. (about 7¼ pounds), a difference of 280 gm. The statistics of Italian women given by Bordè show the same difference in favor of the resting mothers. The average of the weight of babies of Italian working women is 2,855 gm. (about 6¼ pounds), for those of women who had rested twenty-five days it is 3,248 gm. (about 7 pounds), and for those of women who had rested sixty days, it is 3,345 gm. (about 7⅜ pounds). Recently, however, Bondi[1] has disputed these conclusions and has maintained, partly on the basis of fat analyses of placentas, that the fetus develops independently and draws nutrition from the maternal body quite unaffected by the condition of the latter. He shows that corpulent women often bear small children, and vice versa. He failed in several cases to reduce the weight of the fetus by the use of the Prochownik diet. He admits, however, that disease of the mother may exercise an influence in reducing the size of the fetus.

A thesis on this subject has just appeared from the seminar of social medicine of the University of Vienna, written by Sigismund Peller[2] under the direction of L. Teleky, one of the foremost authorities on industrial hygiene. Peller contends that the authors who have discussed this subject heretofore have ignored several essential considerations. In the first place their results are not controlled; they draw conclusions from the examination of women of the working classes only without making a comparative study of women of the well-to-do, the leisure class. In the second place, they do not take into consideration the difference in development between girl babies and boy babies, and between first-born and later born. As Issmer has shown, there is a great advantage on the side of boy babies and of children of later birth, and errors inevitably arise when these differences are not considered. Peller points out the bearing this has on the assertion that illegitimate children average lower in weight at birth than do children born in wedlock. It is an undeniable fact that the proportion of first-born to later-born is very much greater among illegitimate children than is the proportion of first-born to later-born among legitimate children, for unmarried women do not tend as a usual thing to bear many children. Peller's own tables demonstrate this fact. Of the illegitimate male children 58.03 per cent. were first-born, of the legitimate only 29.83 per cent.

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[1] Bondi: Wien. klin. Wchnschr., 1913, No. 25.

[2] Peller, Sigismund: Der Einfluss sozialen Momente auf den körperlichen Entwicklungszustand der Neugeborenen, Sonderabdruck aus dem Beiheft der Wochenschrift Das österreichische Sanitätswesen, 1913, No. 38

Peller's material was drawn from two sources, a sanatorium for women of means with 612 patients, and a large clinic for poor women with 4,875 cases.[3] He divided the poor women into two classes, those who came to the hospital just before confinement and those who were received more than a week before. In this way he could study the effect of long-continued leisure and of a more or less brief period of leisure on the weight of the new-born baby.

Leaving out of consideration the age of the mother, he finds that the first-born boy babies of well-to-do women average 120 gm. heavier at birth than those of poor women, the girl babies 92 gm. heavier. The difference is greater between children of later births. Boys of the third and fourth births in the sanatorium are 136 gm. heavier, and girls as much as 288 gm. heavier than children of the same order in the hospital. This proves the influence of social surroundings on the development of the child. Even more striking is the contrast if the Jewish sanatorium children are eliminated, for Peller found that the average weight of Jewish boy babies is 96.02 gm., and of girl babies 71.54 gm. less than that of the non-Jews, and as there were almost no Jewish babies born in the hospital, the effect was to lower the average of the sanatorium babies. Comparing the non-Jews only, the superiority of the babies of rich women over the babies of poor women who had worked up to confinement was found to be 215 gm. for boys and 150 gm. for girls.

The influence of even a short respite from hard work and probably also from anxiety and suspense is shown in the greater weight of babies born to women who came early to the hospital as compared with those of women who came just before delivery, and it must be remembered that the former were the most destitute class of all, being chiefly unmarried girls, who had no other refuge than the hospital. The difference here depends only on the care given during the last part of pregnancy, and this difference is greater than that between legitimate and illegitimate children. In a comparison of the first-born children of hospital women with those of women coming to the hospital just before confinement, the boy babies of the former are shown to average 118.11 gm. heavier and girl babies 126.42 gm. A careful tabulation of the weights of babies of hospital women shows that there is not much to be gained by keeping the mother for a long period in the hospital before confinement. What counts is the last fortnight of pregnancy. The advantage gained during these two weeks of rest from hard work is practically as great as that gained by a longer period.

The order of weight is the following: at the top the babies of the sanatorium; next the babies of hospital inmates, chiefly illegitimate; next lower, the legitimate children of women not inmates of a hospital and lowest of all, the illegitimate children of women not inmates of a hospital. So short a stay in the hospital as two weeks is sufficient to bring about the change from fourth to second place.

Several other interesting facts are brought out in this study. The most favorable age for child-bearing is apparently between 25 and 35 years, which shows that the eugenic legislation of the Spartans, which established 25 years as the age for the beginning of child-bearing, was founded on close observation. Peller's figures show that the male first-born of poor mothers between 14 and 16 years of age average only 3,124.39 gm. (about $6\frac{7}{8}$ pounds) in weight, while the same class of children of the same class of mothers between 30 and 35 years of age average 3,310.44 gm. (about $7^{3}/_{10}$ pounds).

The difference between legitimate and illegitimate children shown in Peller's tables is not so great as has been supposed. Comparing the legitimate and illegitimate of the same sex and order of birth he finds very insignificant differences, not to be compared with the difference between illegitimate children of mothers who could rest during pregnancy and those of mothers who were forced to work. The proportion of premature children is, as would be expected, highest among the unmarried mothers who worked up to the time of confinement.

The result of such a study as this should be to encourage the provision of prenatal care in hospitals and maternity homes which now too often admit the expectant mother only for actual confinement.

MEASLY MUTTON

The Bureau of Animal Industry of the United States Department of Agriculture has called attention quite recently to the extensive occurrence of sheep measles,[1] a condition hitherto commonly regarded as a sort of zoologic or pathologic curiosity. The disease is due to the encysted intermediate stage, *Cysticercus ovis*, of a species of tapeworm, *Taenia ovis,* which is harbored by the dog, precisely as man is the host of the tapeworms developed from pork and beef cysticerci. The life cycle of the latter is now well appreciated. The eggs find their way into the alimentary tract of cattle or hogs; the parasites presently reach the muscles of these animals and complete the encysted or cysticercus stage there; the "measly" meat of these mammals is then ingested by man and the development of mature egg-producing tapeworms is completed in the alimentary tract of the human host. The mutton cysticerci have hitherto been regarded by many as identical with the pork-measle parasite, which is an intermediate stage of a human tapeworm, *Taenia tenella* or *T. solium.* Ransom's investigations make it evident that these cysticerci are distinct. The *Cysticercus ovis* probably occurs wherever sheep are attended by dogs, but has not yet been found in sheep known to have originated in the eastern part of the United States. It may attain its full development in sheep in less than three months after the animals have been infected, and in the dog the tapeworm may reach egg-producing maturity in seven weeks after the ingestion of mutton containing the cysticercus.

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[3] Craniotomies and multiple births were ruled out, and premature births were listed separately.

[1] Ransom, B. H.: Cysticercus Ovis, the Cause of Tapeworm Cysts in Mutton, Jour. Agric. Research, 1913, I, 15.

More than 17,000 of the sheep slaughtered under federal supervision during the year 1912 prior to December 1 were found to be affected with "measles," and we are assured that as the methods of meat inspection become more efficient the number of cases detected will be relatively much more numerous. The sheep cysticerci are commonly limited to the heart or diaphragm, but they not infrequently occur in other parts of the musculature. The organism is essentially a parasite of the intermuscular connective tissue and is evidently rare in other locations. Although these tapeworm cysts of the sheep are not to be regarded as transmissible to man, now that their zoologic status and life-history has been clearly made out, mutton infested with them is not a desirable article of food, and modern ideas in meat inspection require that such mutton shall either be condemned or be rendered into waste products.

Theoretically, there is no objection from the hygienic standpoint, according to government information, to passing affected mutton for food after the parasites have been removed. No great harm can be done if a few cysts of a non-transmissible parasite hidden in the musculature have escaped observation; therefore, the stringent regulations pertaining to infested beef or pork need not apply to mutton. The esthetic sense of consumers, however, as well as the current temperament in regard to such matters, tends toward the insistence on rigid enforcement of strict inspection and condemnation provisions. The logical way, therefore, to avoid the large monetary losses thereby involved will be to institute more rigid methods of prophylaxis, beginning with the dogs on the sheep-ranches.

THE OLD PRACTICE OF VENESECTION IN A NEW LIGHT

An adequate knowledge of the factors which determine the permeability of the blood-vessels remains in large part to be provided by the science of the future. It is the more to be desired because a comprehensive appreciation of the processes by which exudates and transudates are caused is likely to throw valuable side-lights on many morbid states which still defy intelligent analysis. Of late it has become more apparent that the agencies which affect the blood-vessels in the sense of altering the readiness with which the soluble contents permeate their walls may be far more diverse in character and remarkable in type than has hitherto been supposed.

It is not easy to determine experimentally in an exact and delicate way the onset of the phenomena of increased permeability which later are so conspicuous when they manifest such features as are seen when large amounts of serous fluid collect in tissue-spaces in familiar inflammatory conditions. An incipient inflammatory state of the skin with a slight attendant localized edema or urticaria may be difficult to detect, and its intensity cannot always be readily gaged. One experimental procedure has consisted in inducing a cutaneous response by the use of a local irritant like croton oil. Studies conducted in the Pharmacologic Institute of the University at Vienna[1] have indicated that the reaction thus provoked can be modified profoundly by alterations in the mode of nutrition, by intoxications or by the use of drugs. The changes in the sensitivity of the skin brought about as the result of these factors are induced only slowly, and presumably (according to Luithlen) by gradually altering the relative proportion of acids and bases in the tissue involved.

A "one-sided" dietary may effect a distinct tendency to localized cutaneous edemas, which can in turn be averted by the simple expedient of administering certain bases, such as calcium. Now it is shown, however, that more immediate responses in cutaneous susceptibility can be provoked by quite different means. By way of illustration we may cite the effects of injection, that is, parenteral introduction, of homologous or foreign serums, blood-plasma, gelatin, colloidal silicic acid, soluble starch, etc. — all substances of colloidal character which promptly decrease the sensitiveness of the skin to externally applied irritants. That this is really due to a modification in the permeability of blood-vessels is made the more probable by the fact that the same colloidal agents decrease the readiness with which injected substances find their way out of the blood-stream into the tissue fluids. When sodium iodid, or some other foreign compound, for example, is injected into the circulation it can be found sooner or later in peritoneal fluid or exudate; but if the individual has previously received a treatment with serum of various types or with some other colloidal substance, the exudative appearance of the iodid is greatly delayed.[2]

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[1] Luithlen, F.: Veränderung der Hautreaktion bei Injektion von Serum und kolloidalen Substanzen, Wien. klin. Wchnschr., 1913, xxvi, 653.

Quite surprising is the additional fact[2] that hemorrhage, as it occurs in the old practice of blood-letting, also exercises a favorable effect in decreasing the abnormal permeability of the vessels. Accordingly, not only the injection of blood and serums, but also the repeated withdrawal of blood from the circulation may occasion a therapeutically useful response in the organism. There appears to exist in this finding an experimental basis for the old practice of blood-letting in conditions attended with the undue formation of transudates or exudates, as in pneumonia or pleurisy. The procedure, once so common and even a century ago held so generally applicable, has almost been abandoned. Like any method which rests on purely empiric basis, it has doubtless done harm incommensurably greater than the good that was expected therefrom; for so long as the underlying principle of efficiency is misunderstood or not appreciated, it is impossible to distinguish intelligently between appropriate and inappropriate applications. The good that may be accomplished happens almost as unexpectedly as the harm.

It is not unusual to find that many older therapeutic measures belonging to the days of ultra-empiricism survived because they really involved rational elements of success. Perhaps these newer studies on the effect of hemorrhage on the permeability of the blood-vessels will help to present in a better light the practice of our predecessors of a generation or two ago.

INTRAVENOUS NUTRITION

When it became obvious to physiologists that the ingested proteins are not absorbed as such or even as slightly altered digestion products and it was demonstrated that these nitrogenous foodstuffs are structurally demolished to a considerable extent before leaving the alimentary tract, various hypotheses were formulated regarding the fate of the fragments.[3] It was a prominent belief that instead of being further decomposed, the products, in passing the intestinal wall, are synthesized into protein again, with the resulting production of one or more of the proteins of the blood. As a recent writer has expressed it, this explained at one stroke both the failure to find amino-acids in the blood and the origin of its proteins. The hypothesis thus gave a serious importance to the cells forming the alimentary tube as an organ of protein synthesis.

The explanation has been shattered, however, by the subsequent finding of the amino-acids in the blood and tissues after their absorption.[3] To this may now be added a remarkable demonstration of the capacity of the animal organism to utilize its nitrogen intake when supplied completely in the form of protein digestion products introduced directly into the circulation without having traversed the digestive tube.[4] Abderhalden, in particular, has splendidly demonstrated the possibilities of maintaining animals for long periods in nitrogen equilibrium when the entire nitrogen intake was supplied in the form of amino-acids.[5] Buglia[6] showed that completely digested flesh in amounts equivalent to a day's protein requirement could be injected intravenously without injurious effect, if sufficient time were taken so that the rate of entrance of the products was similar to the rate of absorption in normal digestion. The injected products were mostly metabolized and excreted as urea. But it remained for the Danish investigators, Henriques and Andersen, to accomplish successfully the nutrition of animals solely by the route of intravenous injection of their food-supply. By attaching a cannula permanently to the jugular vein (in goats) they were able to furnish a slow stream of completely digested nutrients hour after hour to the blood-stream. The food consisted of glucose, sodium acetate and inorganic salts, together with a solution of meat completely digested with both pancreatic trypsin and the intestinal enzyme erepsin. To continue such experiments in simplified parenteral nutrition for nearly three weeks and maintain the animals in nitrogenous equilibrium or even obtain a retention of nitrogen, as the Copenhagen physiologists report, is surely a significant contribution to the study of nutrition. It confirms the newer evidence that the intestinal wall need play no rôle in protein synthesis in the organism; at any rate it scarcely seems imperative for the disintegrated protein to traverse the alimentary tube in order to become utilized in the normal manner. The apparent inactivity of the digestive appendages was shown by the minimal output of fecal matter—precisely as this occurs in starvation. The injected protein products were not rejected by the organism and eliminated through the kidneys; for day after day the urine was surprisingly like that which results when comparable foodstuffs are ingested in the usual way.

The accomplishment of the intravenous introduction of foodstuffs with evidence that they were utilized by the organism in a normal way is of more than purely theoretical interest. It brings fresh promise of potent possibilities in the way of parenteral nutrition and makes the likelihood even of successful intravenous administration of nutrients nearer realization. We have repeatedly insisted that one of the important problems for more immediate solution in dietotherapy concerns the discovery of satisfactory ways of nutrition when the oral path is excluded by considerations of disease. The perfection of rational methods of rectal alimentation and these newer indications of the tolerance of other forms of parenteral nutrition are paving the way toward such a discovery.

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[2] Luithlen, F.: Ueber die Einwirkung parenteral eingeführter Kolloide und wiederholter Aderlässe auf die Durchlässigkeit der Gefässe, Med. Klin., 1913, ix, 1713.

[3] In What Form are Protein Digestion Products Absorbed? editorial, THE JOURNAL A. M. A., Dec. 20, 1913, p. 2245; What Becomes of the Protein Digestion Products? editorial, THE JOURNAL A. M. A., Jan. 24, 1914, 303.

[4] Henriques, V., and Andersen, A. C.: Ueber parenterale Ernährung durch intravenöse Injektion, Ztschr. f. physiol. Chem., 1913, lxxxviii, 357.

[5] A Striking Experiment in Simplified Nutrition, editorial, THE JOURNAL A. M. A., May 10, 1913, p. 1464; The Paths of Absorption of Amino-Acids, editorial, THE JOURNAL A. M. A., July 5, 1913, p. 46.

[6] Buglia: Ztschr. f. Biol., 1912, lviii, 162.

Current Comment

THE NEW ST. LOUIS STAR PERFORMS A SERVICE

For several years some of the Chicago newspapers carried indecent and fraudulent advertisements of local quacks. The latter part of last October the Chicago *Tribune* investigated the quack industry of the city and published the results of its investigation in a series of articles. Within a week after the appearance of the first article of this series not a single quack advertisement could be found in any Chicago newspaper. Within two months practically every advertising quack in Chicago had closed shop. Quackery cannot stand the limelight! Now comes the *New St. Louis Star,* and commencing with its issue of January 14, gives the result of its investigation into the methods of the St. Louis quacks. History is going to repeat itself, for the quacks of the Missouri metropolis are rushing to cover. Those St. Louis newspapers which heretofore sold advertising space to these swindlers have closed their pages to them, and there is every indication that St. Louis has seen the last of quackery, at least of the boldly indecent type. The *New St. Louis Star* is being supported by the better element of the city in its campaign, and a mass-meeting has been held at which the subject was discussed from all angles, both by laymen and by physicians. Particularly encouraging was the statement made at this meeting by the president of one of the large dry-goods companies of St. Louis. This gentleman, who is also president of the Civic League, discussed "The Effects of Quack Advertising on Legitimate Business." He held that legitimate advertising suffers when it appears in the same publication that carries illegitimate advertising. For this reason, he said that the St. Louis Retailers' Association, of which his firm is a member, stood ready to discontinue its advertising in certain St. Louis newspapers which carry quack advertising. This attitude on the part of reputable business men will do more to clean up and purify advertising than any other force. That the St. Louis newspapers are waking up to their responsibility in the matter is indicated by the rejection on their part, of advertisements, not only of the quacks, but also of other charlatans that have heretofore been able to purchase newspaper space. One paper is said to have accepted an advertisement of a clairvoyant a few days ago. Its owner heard of it and had the advertisement rejected even though it necessitated stopping the presses. St. Louis is to be congratulated on having a newspaper that will take up the unpleasant but necessary task of ridding the city of one of the most contemptible forms of fraud.

CHONDROITIC ACID IN DIAGNOSIS

Chondroitic acid is a complex organic acid, more properly called chondroitin-sulphuric acid, which is found in small quantities in normal urine. It has hitherto attracted little attention and there are few data indicating that it has any physiologic or pathologic importance. Pollitzer,[1] however, has published observations, which, if confirmed, will require that the clinician have a closer acquaintance with this substance. Chondroitin-sulphuric acid has been recommended as a delicate test for albumin, when added to an albumin solution acidified with acetic acid. Conversely, albumin acidified with acetic acid may be employed as a precipitant for chondroitin-sulphuric acid. Pollitzer has found that, in the presence of a serum albumin, urine containing chondroitic acid gives a precipitate on the addition of acetic acid in the cold. A large part of the precipitate which appears in the urine of patients with orthostatic albuminuria, according to Pollitzer, is due to chondroitic acid. The presence of chondroitic acid is recognized clinically by the addition of a 1 per cent. serum albumin solution acidified with acetic acid. By means of this reagent, Pollitzer was able to demonstrate the presence of chondroitic acid in young patients, even when there was no albumin in the urine. He believes that the substance is produced in the kidney by a slight degree of irritation. It is found particularly in the urine of children and young persons who are the subjects of tonsillitis or have chronically enlarged tonsils. It is not found in the urine of adults. The explanation of this fact he refers either to a modification of the action of the kidney or to the presence of some defensive factor in the throat that prevents the absorption of bacterial toxins. As stated above, chondroitin-sulphuric acid seems to be a characteristic product in orthostatic albuminuria. In this condition it may be found in the night urine which is not albuminous. If Pollitzer is right, the reaction for chondroitic acid should be included in the routine examination of the urine in children and young persons. This test may reveal a condition which needs curative treatment applied to the tonsils. Such treatment with proper hygienic measures may serve to prevent more serious disease of the kidney in later life.

REJECTIONS AND ENLISTMENTS IN THE ARMY

According to the *Army and Navy Journal,*[2] the total number of applicants for enlistment in the Army during 1913 in the Eastern, Middle, Southern and Western sections of the United States was as follows: In Chicago, 11,920, with 9,342 rejections, or 78.4 per cent. of rejections; in New York, 17,055, with 13,758 rejections, a percentage of 80.6; in Savannah, New Orleans and Little Rock, 3,855, with 3,011 rejections, a percentage of 78.1; at San Francisco, 5,504, with 4,443 rejections, a percentage of rejections of 80.7. It will be seen from these figures that the percentage of rejections was about the same in New York and San Francisco, and that the percentage for the Southern section and the

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[1] Pollitzer, H.: Med. Klin., Dec. 21, 1913.

[2] Army and Navy Jour., Jan. 10, 1914, p. 584.

Middle West as represented by Chicago was lower than either the East or the West, with a small fraction in favor of the more northerly section. The better showing of the Middle West was rather to be expected, though the margin is quite small; but the surprising thing about all these figures is the large percentage of rejections in all sections of the country. It does not argue well for the physique and the stamina of our young men, or perhaps may be accounted for by the supposition that the best do not offer themselves for enlistment. In England, it is said, the physique of the average Tommy Atkins is deteriorating, but in a comparatively new country like the United States, the descendants of hardy pioneer stock, reared amid abundance and under favorable health and climatic conditions, should make a much better showing.

RUSSIAN ATTITUDE TOWARD JEWISH OPHTHALMOLOGISTS

Our Berlin correspondent calls attention to the agitation to prevent the success of the International Congress of Ophthalmology to be held in St. Petersburg, Russia, on account of the exclusion of some and the restrictions imposed on other Jewish members. Because of the many withdrawals from the congress, which might have been expected as the result of an appeal to the profession published by Dr. Hirschberg of Berlin, the following announcement was made early in January by Professor Bellarminoff, the head of the congress at St. Petersburg: "The minister of the interior has granted, without exception, unhindered entrance into the empire and unlimited stay to all members of the Twelfth International Congress of Ophthalmology." Apropos of this message, the editor of the *Berliner klinische Wochenschrift* says in the current issue:[1]

> It can only be a matter of keen regret that this announcement came so late, or rather was issued too late. The experience with reference to the International Medical Congress at Moscow in 1897 and the unanimous opposition which the contemplated restriction of passports met from the national committee in Germany, on the initiative of Rudolf Virchow, should have been recalled and heeded in time to spare the organization committee of the Congress of Ophthalmology this painful situation.

Medical News

CONNECTICUT

New Officers.—Hartford Medical Society: president, Dr. Everett J. McKnight; secretary, Dr. Arthur H. Griswold.

New Hospital Staff.—The following staff appointments are made by the Day Kimball Hospital, Putnam: visiting physicians, Drs. John B. Kent and Frederick A. Morrell; visiting surgeon, Dr. Seldom B. Overlock, Pomfret, assisted by Drs. Edward F. Perry, Putnam; Frank P. Todd, Danielson, and Robert C. Paine, Thompson.

Personal.—Dr. Frederick M. Wilson, Bridgeport, sailed for China, January 10.——Dr. I. Napoleon Porter, New Haven, who was operated on at the Elm City Hospital, January 3, is reported making a favorable progress toward recovery.——Dr. L. Howard Wilmot has been appointed health officer of Ansonia, succeeding Dr. Frederick C. Goldstein.

Vital Statistics for 1913.—The total deaths during the year numbered 17,726, which is 411 more than in 1912, and represents a death-rate of 15 per thousand of population, as compared with 14.9 in 1912 and 15.5 in 1911. Tuberculosis caused 1,376 deaths, 33 less than in 1912, giving a death-rate of 11.7 per 10,000 of population, as against 12.1 in 1912 and 12.7 in 1911. Pneumonia in all its forms caused 1,894 deaths, 137 more than in 1912. Deaths from typhoid numbered 129, one less than in 1912, and means a death-rate of 10.9 per 100,000 of population, which is the lowest on record for the state. Diphtheria caused 220 deaths as compared with 193 in 1912. Antitoxin was furnished free by the state. Measles and whooping-cough show a decrease, while scarlet fever showed an increase. There were 3,291 deaths of infants under 1 year of age, 139 less than in 1912. The deaths from accidents, homicides and suicides numbered 1,198.

GEORGIA

Personal.—Dr. Willard E. Quillian has been reelected president of the Atlanta Board of Health.——Dr. Allen B. Jemison has been appointed superintendent of medical inspection of the public schools of Macon and Bibb County.——Dr. Frank M. Cunningham, Macon, who has been seriously ill, is under treatment in Philadelphia.——Dr. William L. Funkhouser, Rome, has been reappointed a member of the State Board of Health in the place of Dr. Robert M. Harbin, of the same city, who declined reelection.——Dr. Ludwig Amster, Atlanta, has returned from abroad.

Memorial Hospital Established.—Drs. Hansell Crenshaw, James N. Ellis, William E. Campbell, Francis G. Jones, Crosby Swanson, G. F. Spearman, William M. Dunn, George C. Mizell, Thomas C. Hodge and Allen H. Bunce, all of Atlanta, filed a petition in the superior court, January 7, for the incorporation of an organization to maintain a hospital to be known as the Crawford W. Long Memorial Hospital, in honor of the discoverer of anesthesia. The capital stock is $4.000, with the privilege of increasing the amount to $100.000. The hospital will accommodate fifty patients, and the executive committee consists of Drs. Hansell Crenshaw, Francis P. Jones and William M. Dunn.

ILLINOIS

Sanitarium Organized.—The La Grange Sanitarium and Hospital Company has been organized and incorporated, taking over the Thornton Villa Sanatorium. The new institution will be continued under the old management, as the La Grange Sanitarium and Hospital.

Personal.—Dr. Ben B. Griffith, newly appointed head of the Springfield Department of Health, assumed the duties of his office January 7.——Dr. Howard E. Wharff, Edwardsville, fractured his right arm while cranking his automobile, January 20.——Dr. Clarence T. Roome has been appointed health commissioner of Evanston, vice Dr. S. V. Balderston, resigned.——Dr. Fred C. Dickson, Danville, has resigned from the Medical Corps, Ill. N. G.

New Officers.—Jo Daviess Medical Society at Stockton, January 15: president, Dr. Joseph C. Renwick, Warren; secretary-treasurer, Dr. Anton T. Nadig, Elizabeth.——Sangamon County Medical Society at Springfield, January 2: president, Dr. Fred S. O'Hara; secretary-treasurer, Dr. Harry C. Blankmeyer, both of Springfield.——Boone County Medical Society at Belvidere, January 15: president, Dr. Alden Alguire; secretary-treasurer, Dr. H. Eugene Delavergne, both of Belvidere.——Winnebago County Medical Society at Rockford: president, Dr. Ernest E. Ochsner; secretary-treasurer, Dr. Carl M. Ranseen, both of Rockford.

Chicago

New Officers.—Chicago Ophthalmological Society: president, Dr. Wesley H. Peck; secretary-treasurer, Dr. Paul Guilford.

Dispensary Joins Hospital.—The North Star Dispensary, which has been located near the Passavant Memorial Hospital for more than forty years, has been consolidated with the Children's Memorial Hospital.

Fight Single Isolation Hospital.—The propaganda attacking the plan for a single isolation hospital was launched January 28. The propaganda committee of the Chicago Medical Society demands four hospitals for contagious diseases, one located near the loop district, one south, one west and one northwest.

Work of Visiting Nurses.—At the twenty-fourth annual meeting of the Chicago Visiting Nurses' Association, January 22, it was reported that an average of 519 calls a day had been made by the 69 nurses on the staff. The number of patients visited was 35,523, on whom 185,757 calls were made.

Incubators for Police Stations.—The Chicago Health Department has undertaken the novel procedure of furnishing each police station in the city with electric incubators for the purpose of expediting the diagnosis of suspected cases of diphtheria. It is arranged that police officers may be handed the tubes containing the culture mediums inoculated from the throats of suspected persons as taken by the physician in charge, who will then leave them at the police station in his district where they will be immediately placed in the electric incubators. Later the cultures will be examined in the Board of Health laboratory. This plan, it is believed, will save considerable time in the diagnosis of suspected diphtheria cases.

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[1] 1914, ii, 95.

Sanitary Trial Balance.—In the January 10 issue of the *Bulletin of the Chicago School for Sanitary Instruction*, the trial balance for 1913 was completed. During the year, a total of 45,291 deaths was reported, a daily mortality of about 97. This total includes 1,879 non-residents who died while in the city, and 915 in county and state charitable institutions just outside Chicago. The annual death-rate per 1,000, for an estimated population of 2,344,018, is 15.05; only four-tenths of 1 per cent. in excess of the average rate for the past decade. Preventable diseases claimed 15,000 victims during the years. As compared with the average rate for the past decade, this is a reduction. Deaths from tuberculosis show a reduction of 10 per cent., 3.6 per cent. in pneumonia, 36.4 per cent. in typhoid, 4.1 per cent. in diarrheal diseases of infants, 55 per cent. in influenza, and 51.7 per cent. in whooping-cough. On the other hand, scarlet-fever mortality showed an increase of 103.7 per cent., diphtheria of 33.7 per cent. and measles of 36.4 per cent.

KENTUCKY

State Health Board Election.—At the annual meeting of the State Board of Health, held in Frankfort, January 14, Dr. John G. South, Frankfort, was unanimously reelected president and Dr. Carlos A. Fish, Frankfort, was sworn in for a second term of six years.

Personal.—Dr. Thomas W. Taylor, Henderson, fractured three ribs and sustained other serious injuries in a street-car accident January 14.——Dr. Wade G. Shacklett, Pleasure Ridge Park, suffered a compound fracture of the right arm while cranking his automobile, January 14.——Dr. Augustin Diez, Lares, Porto Rico, is spending two months in study at the University of Louisville.

Staff to be Reorganized.—The trustees of the University of Louisville took steps, January 16, to begin the organization of a medical staff for the city hospital and appointed a committee to make recommendations for appointments for the hospital staff. This committee consists of Drs. Ap Morgan Vance, William A. Jenkins, H. Horace Grant, Ben. Carlos Frazier and David C. Morton.

New Officers.—Louisville Medico-Chirurgical Society, January 9: president, Dr. Henry Enos Tuley; secretary-treasurer, Dr. Frank C. Simpson.——Kentucky Midland Medical Society at Lexington, January 9: president, Dr. Walter C. Parker, Versailles; secretary-treasurer, Dr. John D. Maguire, Lexington.——Todd County Medical Society at Elkton, January 8: president, Dr. Charles M. Gower, Trenton; secretary-treasurer, Dr. Lee P. Trabue, Elkton.——Hopkinsville Academy of Medicine, organized December 23: president, Dr. James A. Southall; secretary-treasurer, Dr. Dickran H. Erkiletian.——Scott County Medical Society at Georgetown, December 23: president, Dr. Llewellyn F. Heath, Newtown; secretary-treasurer, Dr. Edward C. Barlow, Georgetown.——Jefferson County Medical Society at Louisville: president, Dr. Clarence H. Harris; secretary, Dr. Elmer L. Henderson, both of Louisville.——McCracken County Medical Society at Paducah, December 19: president, Dr. Oliver R. Kidd; secretary-treasurer, Dr. Delia Caldwell, both of Paducah.——Bourbon County Medical Society at Paris, December 18: president, Dr. William Kenny, Jr.; secretary-treasurer, Dr. Charles G. Daugherty, both of Paris.——Christian County Medical Society at Hopkinsville, December 17: president, Dr. Henry W. Watts, Pembroke; secretary, Dr. William S. Sandbach, Casky.——Fayette County Medical Society at Lexington, December 9: president, Dr. Carl L. Wheeler; secretary-treasurer, Dr. Lee C. Redmond, both of Lexington.——Bell County Medical Society at Middlesboro, December 13: president, Dr. W. L. Wilson, Pineville; secretary, Dr. O. P. Nuckols, Middlesboro.

MARYLAND

Would Do Away with Almshouses.—Dr. John S. Fulton, Baltimore, secretary of the State Board of Health, after making a special investigation of the sanitary conditions of the county almshouses throughout the state, has advised that the counties do away with almshouses and pension paupers after finding suitable homes for them.

Doctors' Orchestra Entertains Patients.—A concert was given recently at the Spring Grove State Hospital, Catonsville, by the Doctors' Orchestra, Baltimore, of which Dr. John Percy Wade is director.

Cooperative Purchasing Committee.—A cooperative purchasing committee for the five state hospitals for the insane and feeble-minded has been permanently organized with Dr. J. Percy Wade, Catonsville, as chairman. This committee does away with the employment of a purveyor; its duty will be to purchase quarterly all supplies for the institutions, and it is estimated that a saving of at least 10 per cent. on all supplies will be effected.

New Officers.—Baltimore County Medical Society, January 21: president, Dr. G. Carville McCormick, Sparrow Point; secretary, Dr. J. Carroll Monmonier, Catonsville.——Talbot County Medical Society: president, Dr. Samuel W. Trippe, Royal Oak; secretary-treasurer, Dr. Alexander McC. Stevens, Easton.——Allegany County Medical Society at Cumberland, January 14: president, Dr. James T. Johnson; secretary, Dr. Maynard J. Simmons, both of Cumberland.

Baltimore

Personal.—Dr. August F. Ries was thrown from his carriage recently, but escaped with slight injuries.——Dr. Granville Haines is said to have been adjudged insane and committed to Bay View Hospital.

New Officers.—Baltimore Society of Neurology and Psychiatry: chairman, Dr. Adolph Meyer; secretary, Dr. William Burgess Cornell.——Baltimore City Medical Society: president, Dr. Francis E. Brown; secretary, Dr. Emil Novak.

NEBRASKA

Personal.—Dr. Edward C. Lynch, Scribner, has purchased the Sacred Heart Hospital at Valentine and will take active charge of the institution.——Dr. Gilbert H. Hall, formerly of Millard, has succeeded the late Dr. Charles W. Baldwin at Elkhorn, and has been appointed district surgeon of the Union Pacific System.——Dr. James T. Kinster, Omaha, who has been seriously ill as the result of a cerebral hemorrhage, is reported to be improving.——The office of Dr. Frank Jensen, Newman Grove, was damaged by water and smoke to the extent of $500, January 10.

New Officers.—Pierce County Medical Association: president, Dr. Guy B. Desparois, Pierce.——Saunders County Medical Society at Wahoo, January 8: president, Dr. Ernest O. Weber, Wahoo; secretary, Dr. Mary A. Quincy, Ashland (reelected).——Johnson County Medical Association at Tecumseh, January 15: president Dr. Benjamin F. Gay; secretary-treasurer, Dr. Albert P. Fitzsimmons, both of Tecumseh.——Gage County Medical Society at Beatrice, January 13: president, Dr. John I. McGirr; secretary, Dr. Louis Penner, both of Beatrice.——Dodge County Medical Association at Fremont, January 8: president, Dr. Albert E. Buchanan; secretary-treasurer, Dr. Sylvester A. Preston, both of Fremont.——Burt County Medical Association at Tekamah: president, Dr. Merrit Wood, Tekamah; secretary-treasurer, Dr. Samuel A. Swenson, Oakland.——Lancaster County Medical Association at Lincoln: president, Dr. Henry J. Lenhoff; secretary-treasurer, Dr. Harry E. Flansburg.

NEW JERSEY

New Officers.—Burlington County Medical Society, eighty-fourth annual meeting at Bordentown, January 14: president, Dr. Clinton D. Mendenhall, Bordentown; secretary-treasurer, Dr. George T. Tracy, Beverly.

State Health Board Wants More Power.—The annual report of the State Board of Health especially urges that it be empowered in case of contagious diseases, should a local board of health fail to comply with the directions of the state board, to take direct control of the situation, as at present no power is invested in the state law to enforce regulations in the various sanitary districts of the state. The report also urges the continuation of the antituberculosis campaign, stating that more than 435,000 persons were interested in the "white plague" moving-picture demonstration; points out that the James cold storage act, passed in 1911, should be changed so as to require the marking of foods with the date when they are released from storage as well as the date of entrance, and also that all goods that have been in cold storage be so marked before sale.

NEW YORK

New Officers.—Newburgh Bay Medical Society, January 8: president, Dr. Henry L. Winter, Cornwall; secretary, Dr. Raymond A. Miller, Newburgh.

Tuberculosis Preventorium.—The annual meeting of the trustees of this institution was held in the New York Academy of Medicine January 20, when it was announced that $10,617 had been subscribed for the new open-air school to be established in connection with the preventorium. The capacity of the institution is now 600 children per annum, the average length of residence being three months.

New York City

New Officers.—Medical Association of the Greater City of New York, January 19: president, Thomas S. Southworth; chairman for the borough of Manhattan, Dr. Thomas Darlington; chairman for the borough of Queens, Dr. L. Howard Moss, Richmond Hill.

More Typhus.—The steamer *Kaiser Franz Joseph I* arrived from the Adriatic and Mediterranean January 18, with a case of typhus fever aboard. This is the third case of the disease discovered at the port of New York, the others coming on the *Belvidere* and the *Roma.*

Vaccination Law Upheld.—In the appeal of Hagbard Ekerold, who refused to allow his son to be vaccinated, the appellate division has ruled that parents must permit their children to be vaccinated to attend school, and that, if they refuse, they may be fined $5 for the first offense and $50 or thirty days in jail for the second offense.

Personal.—A complimentary dinner to Dr. Fanueil D. Weisse, in commemoration of his completion of 50 years as a practitioner and teacher, is to be given by his friends in the medical and dental professions at the Hotel Astor, March 28 at 7 p. m. Dr. Henry Sage Dunning, 17 East Thirty-Eighth Street, is secretary of the committee of arrangements.

New Home for Convalescents.—Vincent Astor has purchased a site for a new home for Holiday Farm at Rhinebeck-on-the-Hudson. The home is for convalescent children from the city hospitals and has been in need of larger buildings for some years. It is said that the new buildings will be ready for occupancy in the spring or early summer.

Cancer Hospital Needs Funds.—The New York Skin and Cancer Hospital in its annual report sets forth the numerous needs of that institution. It asks for contributions to be used in acquiring sufficient radium to use in the treatment of cancer and of benign growths. It is also desired to raise an endowment fund of $300,000 and a building fund of $1,000,000.

Campaign against Venereal Disease.—The city of New York has failed to make an appropriation for the work of the Division of Venereal Diseases during 1914, so the Bureau of Social Hygiene has come to the assistance of the department and has pledged sufficient money to enable the work to be carried on. Since Jan. 1, 1913, 18,750 blood specimens have been tested for syphilis and 3,526 blood specimens for gonorrhea. These were sent to the department by private physicians, clinics and hospitals, and by various social service institutions. One orphan asylum has Wassermann tests made on every child before it is admitted to the institution. A letter has been sent out to the medical profession emphasizing the fact that the Department of Health has no intention of administering treatment to persons suffering from venereal disease, and that the function of the clinics of the department are purely diagnostic and advisory.

OHIO

New Officers.—Butler County Medical Society: president, Dr. Louis H. Frechtling; secretary-treasurer, Dr. Wilmer E. Griffiths, both of Hamilton.

Personal.—Dr. F. F. Davis, East Liverpool, is ill with septicemia, due to a wound of the knee.——Dr. Howard V. Dutrow, Dayton, has been appointed district eye specialist by the State Industrial Commission.

Hospital Must Be Enlarged.—Owing to the crowded condition of the Tuberculosis Hospital at Lima, maintained by Allen, Van Wert, Auglaize, Mercer and Shelby counties, steps are being taken for its enlargement. At present thirty-eight patients are under treatment.

Ohio State University Gets Medical Department.—Reliable information states that the Ohio legislature has confirmed the action of the board of trustees of the Ohio State University in taking over the Starling-Ohio Medical College of Columbus as its medical department.

Cleveland

Reorganization of City Hospital.—Under the reorganization of the city hospital, the following staff appointments have been announced: Department of surgery, Dr. Carl A. Hamann, visiting surgeon and departmental head; Dr. Henry A. Becker, Dr. Roland E. Skeel, Dr. Oscar T. Thomas, Dr. Frederick C. Herrick, Dr. George D. Upson, Dr. Oliver A. Weber. Department of diseases of the eye, Dr. Charles C. Stuart, visiting surgeon and departmental head, assisted by Dr. William E. Shackelton. Department of diseases of nose, ear and throat, Dr. John N. Lenker, department head, assisted by Dr. Warner H. Tuckerman. Department of obstetrics, Dr. Arthur H. Bill, departmental head; Dr. John J. Thomas, assistant head; Dr. George B. Farnsworth, Dr. William T. Miller, Jr. Department of medicine, Dr. Edward P. Carter, head; Dr. Richard Dexter, assistant head; Dr. Frank J. Geib, Dr. Milton J. Lichty, Dr. Samuel J. Webster. Department of dermatology, Dr. William C. Gill, head; Dr. Harold N. Cole, assistant. Department of diseases of the nervous system, Dr. Charles W. Stone, visiting neurologist; Dr. Oliver P. Bigelow, Dr. Leonard R. Ravitz, Dr. Walter B. Laffer. Department of diseases of children, Dr. Harold O. Ruh, head; Dr. Otto L. Goehle and Dr. Frederick Beekel. Department of tuberculosis, Dr. John H. Lowman, head; Dr. Robert H. Bishop, Dr. Joseph C. Placak, Dr. Ellery P. Edwards, Dr. Cecil O. Witter. Department of pathology, Dr. William T. Howard, visiting pathologist.

PENNSYLVANIA

Sanatorium at Eaglesville.—Plans and specifications are being made for a one-story frame administration building to be erected at Eaglesville, for the Jewish Sanatorium for Consumptives.

Personal.—Dr. James S. Carpenter, Pottsville, has been reappointed district surgeon for the Pennsylvania System, for the twenty-ninth consecutive term.——Dr. Samuel P. Glover, Altoona, sailed for Europe, January 31.

Health Department Report for October.—Statistics compiled at the state department of health show that during the month of October there were 17,160 births and 8,837 deaths in the state. Penumonia caused the greatest number of deaths, 691.

Cannot Compel State Hospital to Accept Indigent Insane.—On January 19, in Quarter Sessions Court, Judge Carr filed an opinion discharging the rule, taken on the board of trustees of the State Hospital for the Insane at Norristown, to compel that institution to accept indigent insane sent there from Philadelphia.

Large State Appropriation.—Statistics compiled by the Board of Public Charities show the last legislature appropriated $16,855,391.31 for the maintenance and building for the next two years of twenty-six state institutions, seven semi-state institutions, 149 hospitals, five sanatoriums and 116 homes and asylums for the indigent and insane. In addition $2,625,000 was appropriated to the state department of health for the free treatment of tubercular patients, an appropriation of $40,000 was made for the Pennsylvania Village for Feeble-Minded Women, $250,000 for the State Industrial Home for Women and $25,000 to erect the new State Institution for Inebriates.

Philadelphia

New Officers.—Philadelphia County Medical Society, January 21: president, Dr. William Duffield Robinson; secretary, Dr. William S. Wray.——Philadelphia Neurological Society: president, Dr. Charles K. Mills; secretary, Dr. William B. Cadwalader.——Philadelphia Physicians' Motor Club, January 20: president, Dr. S. Leon Gans; secretary, Dr. Howard A. Sutton.——Philadelphia Polyclinic Ophthalmic Society: president, Dr. Wendell Reber; secretary, Dr. Walter W. Watson.

Baby Contest Closed.—The baby improvement contest, held at the Settlement House, Tenth and Bambridge Streets, under the auspices of the Child Federation, closed January 17. Final examinations of 100 babies were made and on January 21, Mayor Blankenburg awarded the three prizes of $25, $15 and $10. This contest was started eight weeks ago and all the entrants were from the Italian district. A large staff of physicians was put in charge of the work and the corps of nurses was kept busy calling at the homes of these babies. The contest not only benefited the babies, but made a marked improvement in the home sanitation.

RHODE ISLAND

Personal.—Drs. Frederick L. Blair and James Hamilton, Jr., were seriously injured in a collision between motor cars at

Providence, January 5.——Dr. Charles V. Chapin, Providence, has been elected first vice-president, and Dr. Edward C. Murphy, Providence, a director of the Rhode Island Anti-Tuberculosis Association.

Fever Outbreak Explained.—Dr. Hugh DeValin, U. S. P. H. S., who has been investigating the outbreak of typhoid fever which affected the citizens, officials and militia organizations of the state during the Perry Centennial, has reported that the epidemic was due to one of two causes, either impure water taken into the tanks of the steamer *Rochester* at various points on the trip and drawn directly from Lake Erie, or the presence on the boat of a meat cook affected with typhoid.

Organization for School Hygiene.—A movement for a state-wide organization of school superintendents and medical inspectors for the furtherance of advanced ideas on school hygiene and allied subjects, has been inaugurated in the state. A committee consisting of Drs. Gardner T: Swarts, secretary of the State Board of Health, Providence; J. Leston Nickerson, superintendent of schools of Johnston, Dr. Edgar Hamlin, Slatersville, is working on plans for the proposed organization.

TENNESSEE

New Officers.—Dickson County Medical Society at Dickson, January 6: president, Dr. William J. Sugg; secretary, Dr. William S. Scott, both of Dickson.——Nashville Academy of Medicine, January 6: president, Dr. Duncan E. Eve, Jr.; secretary, Dr. Joseph F. St. Gallagher (reelected).

Personal.—The professional friends of Dr. Richard B. Maury, Memphis, will give a dinner in honor of his eightieth birthday anniversary, February 5, at the Hotel Gayoso.——Dr. Adelbert L. Ritchey, Nashville, is reported to be critically ill at his home.——Dr. William G. Ewing, Nashville, is said to be seriously ill at his home in that city.

TEXAS

Personal.—Dr. Joseph B. McKnight, Brady, has assumed charge of the Texas State Tuberculosis Sanatorium, Carlsbad ——Dr. Walter P. McCall has been appointed local surgeon for the Houston and Texas Central Railroad at Ennis, vice Dr. John M. Hooper, resigned.——Dr. Andrew B. Parr, Gonzales, fractured his right arm while cranking his motor car recently. ——A dinner was given by medical men of Galveston to Dr Charles W. Truehart, for many years health commissioner of Galveston.

Hospital News.—The new State Hospital, Denison, has been leased to the Missouri, Kansas and Texas Railway Company. Part of the hospital is to be reserved for city patients.——Plans have been completed and approved for the new Woman's Hospital, for the Southwestern Insane Hospital, San Antonio. The building is to cost $50,000.——The Tuberculosis Clinic, Houston, was opened January 17. The clinic days are Tuesday, Thursday and Saturday.——On January 6 a free clinic was opened at St. Vincent's Sanatorium, Sherman. The institution is open each day from 1 to 3 p. m.——The new Cameron Sanatorium was formally opened January 5.

VIRGINIA

New Officers.—South Side Virginia Medical Society at Kembridge, December 9: president, Dr. Walter D. Kendig, Kembridge; secretary-treasurer, Dr. Emmet F. Reese, Courtland (reelected).

Personal.—Dr. William T. Oppenhimer, Richmond, has been appointed chief surgeon of the Chesapeake and Ohio System, succeeding Dr. Charles W. P. Brock, resigned.——Dr. George A. L. Kolmer, district inspector under the State Hookworm Commission, has resigned to enter private practice at Salem.

Society Awards Prizes.—At the meeting of the Richmond Academy of Medicine and Surgery, January 13, Dr. Charles V. Carrington, president-elect, was installed, and the following prizes were awarded for the best papers read during the year: Dr. James H. Smith, first prize, $100; Dr. Alexander G. Brown, second prize, $75; Dr. Charles M. Hazen, third prize, $25.

Hospital Loaned to City.—An ordinance was signed January 17, by the mayor of Richmond, under which the city accepts from the Medical College of Virginia the loan of the Virginia Hospital for a period of not to exceed ten years. The building is to be used as a municipal hospital until the city shall erect one of its own. A second ordinance. authorizes the expenditure of $2,600 for immediate repairs, and the building is expected to be ready to receive patients February 15.

GENERAL

Tri-State Association to Meet.—The sixteenth annual session of the Tri-State Medical Association of the Carolinas and Virgina, will be held in Wilmington, N. C., February 18 and 19.

Tri-State Society Meeting.—The fortieth semi-annual meeting of the Northern Tri-State Medical Association of Michigan, Indiana and Ohio, was held in Kalamazoo, January 13. Lima, Ohio, was selected as the next place of meeting.

Bequests and Donations.—The following bequests and donations has recently been announced:

Medford Sanitarium, Medford, L. I., N. Y., an endowment of $100,000 from an anonymous source.

Tuberculosis Preventorium for Children, Farmingdale, N. J., a contingent donation of $1,000 from Jacob Schiff.

New York Homeopathic Medical College, New York City, a donation of $25,000 for research work in cancer.

French Investigation of Postgraduate Instruction in the United States.—The minister of public instruction of France has appointed Dr. Gustav Monod, a member of the famous French Huguenot family, to report on postgraduate instruction in medicine in England and in the United States. Dr. Monod will sail for New York by the *Savoie* on February 7 and may be addressed care of the American Express Company, New York. Dr. Monod has investigated medical conditions in Paris, and while here he will probably deliver one or more addresses on this topic.

Monument to Daniel A. Carrion Proposed.—At the sixth Medical Pan-American Congress held in Lima on Nov. 11, 1913, a resolution was adopted to the effect that a monument be erected to the martyr of the medical science of Peru, Daniel A. Carrion. The cost is to be defrayed from the proceeds of subscriptions made by the American nations represented. Heads of the various delegations were charged with obtaining subscriptions in their respective countries. For the United States, subscriptions should be sent to Lieut. Col. Charles F. Mason, Medical Corps, U. S. Army, Ancon Hospital, Ancon, C. Z.

Trichinosis.—A number of cases of trichinosis have been reported from near Thomasville, N. C., with one fatality. The disease was traced to a single hog, the meat from which it is said was not thoroughly cooked before being eaten. No other instances of the disease in that section have been noted and it is thought the hog became infected from scraps of western meat fed with garbage. No cases arose among those eating the western pork because it was well cooked. Two deaths are reported from trichinosis at Stetsonville, Taylor County, Wis. Eleven persons are said to have been afflicted with the disease, due to eating raw pork.

FOREIGN

International Congress of Spanish-Speaking Physicians.—This meeting, the first of its kind, is to be held at Paris during the last half of April, 1914. Membership in the congress is open to all qualified physicians, but Spanish will be the only language used. The committee of organization is headed by Dr. A. F. Caro and includes Prof. Ramon y Cajal and Dr. A. Pulido, editor of the *Siglo Medico*, all of Madrid.

International Congress of Ophthalmology.—As already announced, the twelfth International Congress of Ophthalmology is to be held at St. Petersburg, Aug. 10 to Aug. 15, 1914. The committee for the United States includes Dr. G. E. de Schweinitz, 1705 Walnut Street, Philadelphia; Dr. E. E. Blaauw, Buffalo; Dr. A. Knapp, New York; Dr. A. Barkan, San Francisco, and Dr. W. H. Luedde, St. Louis. The subjects appointed for discussion are etiology of trachoma, and nutrition of the eye. Further particulars may be obtained from the secretary of the congress, Dr. T. Germann, Ophthalmic Hospital, Mochowaja 38, St. Petersburg, Russia, or from members of the American committee.

Other Deaths in the Profession Abroad.—Dr. A. G. del Valle, dean of the profession in Cuba, aged 99.——A. d'Antona, professor of surgery at Naples. An account of the sensational law-suit brought against him in 1904 and his acquittal was given in THE JOURNAL, March 19, 1904. He found conditions inoperable, as anticipated, in a liver affection and left two hemostatic forceps and gauze sponges in the wound, removing the forceps and some of the sponges the next day, then leaving the case, as usual, to his assistants for further care. At necropsy not long afterward a gauze tampon was found in the body and the family instituted criminal proceedings. The final trial was before the senate of the realm which resolved itself into the supreme tribunal for the purpose as Professor d'Antona was a member of the senate.

CANADA

Personal.—Dr. George R. McDonagh, Toronto, has sailed for Panama and Barbadoes.——Dr. Kennedy McIlwraith, Toronto, has gone to Naples.——Lieut.-Col. George Sterling Ryerson, M.D., Toronto, has been elected president of the Red Cross Society in Canada.——Dr. Augusta Stowe-Gullen has been reelected president of the ladies' board of the Western Hospital, Toronto.

Medical Practice Act of Saskatchewan.—An attempt has been made surreptitiously in the legislature of Saskatchewan to alter and amend the medical practice act of that province. It was all but lobbied through when it was quite accidentally discovered and then the College of Physicians and Surgeons made representations to the government to the effect that they received assurances that the bill would not be proceeded with. One of the proposed amendments was as follows: *Persons registered under the provisions of this act shall be restricted to the practice of that class or classes of practice only for which they are certified to be qualified and for which they are registered under this act.* Another proposed amendment gave the whole scheme away: All examinations of candidates for permission to practice medicine, surgery, midwifery, homeopathy, osteopathy, chiropractics, in the province of Saskatchewan shall be under the control of the University of Saskatchewan, the examiners for this purpose being appointed by the council of the university subject to the approval of the senate.

Montreal Mortality.—The total number of deaths in Montreal in 1913 numbered 11,097, or 21.7 per 1,000. The returns show an increase over 1912 of 1,412. The diseases chiefly contributing to the deaths were tuberculosis, scarlet fever, diphtheria and typhoid. Tuberculosis carried off 1,073 people, an average of 210 per 100,000, or three less per 100,000 than in 1912. The average by years for the past five years, per 100,000, was as follows: 1909, 189; 1910, 214; 1911, 194; 1912, 213; 1913, 210. From scarlet fever, 184 died as against 80 in 1912, and there was no epidemic in 1913. The records for this disease for the past five years were as follows: 1909, 27 per 100,000; 1910, 27; 1911, 16; 1912, 17; 1913, 36. Diphtheria claimed 173 people as compared with 77 in 1912. For the past five years the average for 100,000 has been in 1909, 26; 1910, 30; 1911, 29; 1912, 16; 1913, 34. Typhoid caused 106 deaths, or 21 per 100,000, or 2 per 100,000 more than in 1912. The figures for this disease for the past five years show that the quality of Montreal's drinking water has been steadily improving: In 1909, 49 per 100,000; 1910, 43; 1911, 26; 1912, 19; 1913, 21. The new medical officer of health, Dr. Boucher, is planning for a complete reorganization of the department of health, and considerable additions will be made to the staff including food and sanitary inspectors.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 17, 1914.

A State Medical Service

In previous letters to The Journal it was shown that while the national insurance act was on the whole working smoothly and with astonishingly few complaints, considering the magnitude of the service, there were still many defects. It was also pointed out that some reformers were advocating, as a great improvement on the insurance system, a national medical service in which the physicians would be employed entirely by the state, and not only the workers would be entitled to attendance as at present, but also their dependents. This would mean that the state would provide medical attendance for the greater part of the population and convert the medical profession into a civil service. There are indications that the insurance act is only a beginning and that some such system will eventually be adopted; but the conservative character of the nation renders it probable that the change will be brought about gradually. An important pronouncement on the subject has been made by Sir John Collie, medical examiner to the London County Council and member of the Joint and Advisory Committee on Insurance (a committee consisting of physicians and laymen appointed to advise the government on questions which arise in connection with the insurance act). As he always has been a supporter of the act and a friend of the government, his views are all the more important and likely to foreshadow, to some extent at least, the official attitude. In a lecture delivered under the auspices of the Faculty of Insurance he said that after the year's experience with the act it was possible to call attention to certain revealed defects which he classified thus: defects in the act itself; defects in local administration, and defects inherent in the administration of the panel system.

The first mistake was to set up an entirely new body to administer the act. We have already too many bodies to deal with medical matters, and what is needed is coordination. The amalgamation of government medical services must come, and the Local Government Board was the proper authority to deal with this act. It would have enabled us to unite the two branches of clinical and preventive medicine. Another mistake was the creation of four commissions and the setting up of local insurance committees, "since local government is already suffering from a multiplication of bodies." In central administration the policy of the commissioners in dealing with outside bodies has too often taken the line of least resistance and yielded to demands they should have ignored. For the generous capitation sum of $1.75 for medical treatment he thought that the commissioners should have demanded a complete service. They took a disastrous step in limiting "adequate treatment" to what could be done by a physician of ordinary skill and competence. If economical and equitable arrangements had been made the physicians would have been amply paid and there would have been money to meet extra demands.

Dealing with defects in the panel system he summarized them thus: 1. *There is no selection of physicians to serve on the panel.* This is a tremendous mistake; a large number of physicians with very inferior attainments wished to put down their names, and many of them have now large numbers of insured persons on their lists.

2. There is competition between physicians for patients. This is the greatest objection to the panel system. It placed a premium on advertising, the "bedside manner," and readiness to give certificates of incapacity for work led to abuse. Much of the oversickness is due, especially among women, to genuine ill health, but there is a lot of real malingering. 3. There are too many patients on the doctor's list. No physician should be allowed to have more than a specified number of patients. "Lightning diagnosis" is a glaring defect of the panel system. 4. Owing to the absence of modern methods of scientific diagnosis, treatment is inadequate. The great bulk of the money provided under the act is going in the treatment of minor ailments; much of it is hardly more than first aid. If a person needs more than elementary treatment, it seems that he is entitled only to be informed of the fact; he must make his arrangements for treatment. In Germany full treatment is recognized as being the most economical in the long run. 5. The list of appliances is cut down to the barest possible minimum. Trusses, for example, were nearly always provided by the old friendly societies but are not included in the list.

Sir John Collie's remedy for this is a national medical service. "We must have an altogether higher conception of what is a national and adequate system. The pill and potion treatment ought to have gone forever." The new knowledge in medicine should be within the reach of every one. Hospitals, medical officers of health, consultants and others were now "practically ignored." If a really complete service were devised the objection to the act would disappear. The government should take a bold step and establish a national state medical service. Such a service should cover all the dependents of insured persons, and it should be extended to every man, woman and child of the indigent classes. It should be complete; it must provide every sort of treatment that is required. Payment should be by fixed salary; admission to the service should be by examination; administration should be both central and local. A national service would cost far less per head than the present system. Such a system should be started at once in those areas in which at present the panel physicians are overworked.

Preventive Medicine in India

The annual report of the Bombay Bacteriological Laboratory for 1912, which has just been issued, shows that during the year 700,000 doses of antiplague vaccine have been manufactured and distributed to China, Africa and Java, as well as to many places in India. Investigations into the cause, prevention and treatment of a number of diseases have also been undertaken. A large number of statistics have been collected which again emphasize the advantage of inoculation in plague. Poisons for destroying rats have been tested and experiments have been made to ascertain the most efficient means for preventing the transfer of plague infection in grain from Bombay to other ports, especially on the Persian Gulf, where plague is said to have been conveyed in steamers carrying rice from Bombay. An investigation into the prevalence of tuberculosis among cattle in Bombay is particularly noteworthy. A hundred samples of milk collected from cows in

Bombay have been examined for the presence of the tubercle bacillus, with negative results, so that it appears that tuberculosis in cattle in Bombay is extremely rare. An inquiry into the breeding places in Bombay and Karachi of stegomyia mosquitoes has been made. Both the climate and the trade of the port of Bombay are favorable for the introduction and spread of yellow fever, the Panama Canal is about to be opened for traffic, and the ports of the Far East may become infected as a result of the increased trade with the endemic home of yellow fever. It seems necessary, therefore, to take every precaution to prevent the introduction of the disease and to diminish the number of breeding places. In attempting to eradicate disease in India the great difficulties still to be overcome are the ignorance and prejudices of the people. An interesting experience at Thana is recorded in connection with guinea worm. A dilapidated well was found to be the source of the trouble. The villagers were offered the assistance of the district board to have their well put in order. They not only refused this offer but made no attempts to effect any repairs themselves. So indifferent were these people that they did not object to the village youths bathing in the well, and its contents, barely sufficient to fill a bath tub, were their only source of drinking water. A proposal has been put forward to build a new well and to protect it from contamination, but it remains to be seen if these villagers will abandon their old well and take advantage of the purer water in the new one.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, Jan. 16, 1914.

Death of Dr. Jeanne

Dr. Jeanne, editor in chief of the *Concours médical*, has just died suddenly. Formerly a naval physician, he had devoted himself almost exclusively for some years to the defense of the interests of the medical profession. He had contributed in particular to the creation of the Mutualité médicale professionelle, and to a number of other similar societies patronized by the *Concours médical*.

Law-Suit between Dr. Doyen and an Assistant

In April, 1911, Dr. Miette entered Dr. Doyen's clinic as an assistant and consultant. December 2 Dr. Doyen dismissed him without previous notice. Dr. Miette brought suit for 500 francs ($100), representing 10 per cent. of the gross receipts of the clinic for a month, alleged to be due him, and for 4,500 francs ($900) damages for his abrupt dismissal. He was unable, however, to furnish proof of an agreement relative to a percentage, which was denied by Dr. Doyen. In the matter of damages for sudden dismissal, the court decided against Dr. Miette on the ground that there is no custom which requires a physician to give his assistant notice of dismissal, and that a physician who gives his services for certain consecutive hours of the day to a clinic near his home, and who can therefore retain his practice, cannot be placed on the same basis as an employee whom a discharge deprives of all occupation, and who is therefore entitled to notice before dismissal.

Personal

At its meeting January 13, the Académie de médecine elected M. Daniel Berthelot a member in the section of pharmacy, to take the place of M. Yvon, deceased. The new member is a son of the famous chemist, Marcellin Berthelot, and a professor at the Ecole supérieure de pharmacie de Paris.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, Jan. 10, 1914.

Personal

Privat-Docent Dr. Adam has been appointed successor of the deceased Professor Kutner as director of the Kaiserin Friedrich Haus, the headquarters for medical postgraduate work.

On the occasion of the birthday of the new king of Bavaria, Professors Friedrich von Muller and von Gruber of Munich, received the title privy counselor, which carries with it the title of excellence.

Protest Against the International Congress of Ophthalmology at St. Petersburg

As the readers of THE JOURNAL must know, foreign physicians of the Jewish faith are allowed to enter Russia only by special permission of the government — a permission which is accorded only in exceptional cases, and for a short period. In order that Jewish physicians may not be excluded from international medical congresses, such an exceptional permit has generally been granted by the government for each meeting, and by this means it was possible for Jews to take part in the International Medical Congress held in Moscow about ten years ago, as well as in the International Congress of Gynecology which took place last year.

Each time earnest protests were publicly made against such an uncivilized discrimination against Jewish physicians. At the time of the International Medical Congress the protest was made by the congress itself, on the motion of Rudolf Virchow. As the same procedure is to be repeated on the occasion of the International Congress of Ophthalmology, which, according to the present plans, is to be held in St. Petersburg in August, the well known Professor Hirschberg of this city has published a statement declaring that in view of this humiliating exception he will not attend the congress, and he requests his colleagues to absent themselves as well. The president of the Belgian Ophthalmologic Society has already published a sharp protest to the same effect, and it seems as if the meeting of the congress might be endangered in this way. Such an outcome would be exceedingly regrettable for the sake of our Russian colleagues, who are entirely innocent of the inimical attitude of their government toward civilization, but it would be a generally approved reprimand to the Russian government, which probably would be made to feel that eventually it must rise to the plane of European civilization if it cares to maintain further international relations.

The excitement caused by the action of the Russian government in this matter has been considerably heightened by the recent treatment of the noted psychiatrist, Bechterew. Bechterew made a thorough and correct report regarding the recent trial for ritual murder in Kiev, which, however, was opposed to that given by the fanatical Sikorski who is probably himself suffering from a senile psychosis. The report of Bechterew was markedly unsatisfactory to the prosecution. On account of this report, Bechterew has been deprived of his office and removed from the management of the institute which was founded by him.

In view of such censorship of science and its representatives, many people have justly reached the opinion that a country which has a government of this kind at its head is not yet fit for international scientific congresses.

Industrial Insurance

As expected, the representatives of physicians and of the insurance societies reached a settlement at the meeting called by the government for December 28. That the concession was not easy for medical men was evident not only from the length of the discussions (over seven hours) but also from the fact that there were a considerable number of votes against the agreement. Many among the general mass of the profession will not be pleased with the arrangements made with the insurance societies, and very many will not be pleased with the individual provisions of the contract, but it is plain that peace with moderate concessions is always better than a war in which even the winner will suffer much loss. It must be remembered that there are a large number of physicians whose whole income is derived from insurance practice and who in the event of a conflict would need support from the Leipsic League. It must not be assumed that with the signing of the contract every occasion of disagreement is removed. Aside from the fact that a number of the provisions are not entirely clear and need an agreement from both sides as to their interpretation, there are many branch organizations on both sides that will not follow the general contract, but will make special agreements suitable to their special circumstances. Such statements have already been made by many insurance societies. One of the chief points of dispute is the position of those physicians who have made definite contracts with the insurance societies after the termination of the contracts between these societies and the insurance physicians who previously served them. These physicians are evidently able to enforce their contracts or secure some compensation. In previous conflicts the Leipsic League has undertaken to bear the cost of such a settlement. In the present case, however, it is distinctly stated in the agreement that while the Leipsic League undertakes the burden of paying the necessary compensation, the insurance societies must gradually recompense the league for half of the expense by raising their dues about 1.5 cents (5 pfennig). As this amounts to a considerable sum (it is estimated at about $250,000 (1,000,000 marks), it is evident that not all the societies are prepared to undertake such expenses which they do not believe they are bound to share.

Marriages

Jacob R. Brite, M.D., Cincinnati, Ohio, to Miss Theresa Cerwinski, both of Cincinnati, in Louisville, January 2.

Anne I. Murphy, M.D., and Mr. Arthur Belding Reed, both of Michigan City, Ind., at Oak Park, Ill., August 19.

Carl Henry Wachenfeld, M.D., to Miss Lillian Sauers, both of St. Louis, at Maplewood, Mo., January 13.

John Clarence Lindsay, M.D., Chicago, to Miss Mabel Violet Baldwin, of Bloomington, Ill., January 20.

Harold Otto von der Lieth, M.D., to Miss Eza Eugénie Saithon, both of San Francisco, January 14.

Wylie C. Johnson, M.D., Canton, N. C., to Miss Nancy Leftain of Asheville, N. C., January 1.

Thomas M. Barnett, M.D., Dothan, Ala., to Miss Agnes Bellamy of Florence, Ala., January 6.

Clarence C. Holman, M.D., to Miss Beulah Babb Crews, both of Effingham, Ill., January 17.

Joseph Bernard Winnick, M.D., to Miss Bessie Papes, both of St. Paul, Minn., November 18.

Frank Edgar Simons, M.D., to Miss Helen Sloan, both of Canajoharie, N. Y., January 13.

Timothy J. Dwyer, M.D., to Miss Flannigan, both of Omaha, Neb., January 7.

Deaths

John Spears Dorset, M.D. Long Island College Hospital, Brooklyn, 1864; a surgeon in the Confederate service and consul in London for the Confederate States during the Civil War; at one time associate editor of the *Texas Medical Journal;* died at his home in Bonham, Tex., December 7, aged 75.

Philo Milton Jewell, M.D. University of Michigan, Ann Arbor, 1873; a Fellow of the American Medical Association; formerly a member of the Iowa legislature; who was operated on last summer, died at his home in Decorah, January 8, aged 65.

James T. Graves, M D. University of Pennsylvania, Philadelphia, 1857; a member of the North Carolina state legislature in 1893, and for many years a practitioner of Wilson; died at his home near Stantonsburg, N. C., January 7, aged 78.

Elias Bruce Earhart, M.D. Cincinnati College of Medicine and Surgery, 1890; a Fellow of the American Medical Association; a member of the Board of Health of Saltsburg, Pa.; died at his home in that city, January 8, from septicemia, aged 55.

Albert A. Fitts, M.D. Howard University, Washington, D. C., 1878, of Batavia, Ill.; a Fellow of the American Medical Association; local surgeon for the Chicago and Northwestern Railway Co.; died in St. Petersburg, Fla., January 5, aged 60.

James P. Buck, M.D. Jefferson Medical College, 1879; formerly a member of the Illinois State Medical Society; a surgeon in the Servian Army during the war with Bulgaria in 1883; died at his home in Chicago, January 17, aged 57.

Joseph Longworth Anderson, M.D. College of Physicians and Surgeons, New York City, 1875; formerly of Cincinnati; who had been ill for several weeks in Johns Hopkins Hospital, Baltimore; died in that city, January 9, aged 62.

Harry P. Mera, M.D. University of Dublin, Ireland, 1858; Hahnemann Medical College, Philadelphia, 1870; for more than 30 years a practitioner of Detroit; died at the home of his son in Santa Fe, N. M., January 6, aged 78.

Staley E. Young, M.D. Baltimore Medical College, 1893; a member of the Medical Society of Virginia; surgeon for the General Chemical Company at Gossan Mines, Va.; died at that place, January 9, from meningitis, aged 51.

Rudolph Braun, M.D. College of Physicians and Surgeons, New York City, 1883; for 10 years medical inspector in the public schools of Newark, N. J.; died in his home in that city, January 9, from pneumonia, aged 62.

Erastus W. Mills, M.D. Medical College of Ohio, Cincinnati, 1859; surgeon of volunteers during the Civil War, and a pioneer practitioner of Portland, Ore.; died at his home in Hood River Valley, October 28, aged 86.

Milo E. Park, M.D. Western Reserve University, Cleveland, 1884; a member of the Medical Society of the State of Pennsylvania; county physician of Clearfield County; died at his home in Westover, January 3, aged 54.

Charles Rector Merriman, M.D. Western Reserve Medical College, Cleveland, Ohio, 1858; for many years a member of the Summit County Medical Society; died at his home in Akron, Ohio, January 9, aged 84.

George B. Campbell, M.D. St. Louis College of Physicians and Surgeons, 1892; of Port Orchard, Wash.; died suddenly while making a professional call near that place, January 5, from heart disease, aged 66.

Charles Samuel Hosmer, M.D. Rush Medical College 1893; University of Michigan, Ann Arbor, 1901; a Fellow of the American Medical Association; died at his home in Portland, Ore., December 9, aged 48.

Thomas M. Zane, M D. Missouri Medical College, St. Louis, 1877; a Fellow of the American Medical Association; of Osage City, Kan.; died in a hospital at Emporia, January 10, from nephritis, aged 61.

T. W. Fraser, M.D. Western University, London, Ont., 1886; for 20 years a resident of Mexico; died at his home on the Kingsland Road, Varina District, Va., December 31, aged 47.

John M. Dee, M.D., University of Buffalo, 1869; College of Physicians and Surgeons of Toronto, Ont., 1872; of Stamford, Ont.; died in Niagara Falls, Ont., December 2, aged 80.

Charles White, M.D. Rush Medical College, 1864; for 57 years a practitioner of Chicago; a member of the Illinois State Medical Society; died at his home, January 21, aged 82.

Charles F. Spademan, M.D. Detroit College of Medicine, 1892; a Fellow of the American Medical Association; died at his home in Detroit, January 4, from pneumonia, aged 49.

William G. Graham, M.D. New York Homeopathic Medical College, 1866; a pioneer resident of Cowley County, Kan.; died at his home in Winfield, January 2, aged 73.

Ormond Erly Hutchins, M.D. Keokuk Medical College, College of Physicians and Surgeons, 1906; died at his home in Warsaw, Ill., January 7, from pneumonia, aged 28.

Diogenes Chase, M.D. Bellevue Hospital Medical College, 1869; a veteran of the Civil War; died at his home in Morrisville, N. Y., January 7, from rheumatism, aged 70.

Duncan McAlpine, M.D. University of Toronto, Ont., 1893; L. R. C. P. Edinburgh, 1894; died at his home in Grand Haven, Mich., January 3, from pneumonia, aged 44.

John M. Fitch (license, Nebraska, 1891) for more than 25 years a practitioner of Doniphan, Neb.; died at a hospital in Grand Island, Neb., December 25, aged 77.

William Harry Harvey, M.D. Medico-Chirurgical College, Philadelphia, 1905; died at his home in Wilkinsburg, Pa., January 6, from pleuropneumonia, aged 33.

Frank S. Woolfolk, M.D. Washington University, Baltimore, 1877; a member of the Medical Society of Virginia; died at his home near Louisa, January 3.

William Odell Robinson (license, Ontario, 1869); for 45 years a practitioner of St. Jacob's, Ont.; died in his home in that village, November 1, aged 86.

John Thomas Kelley, M.D. College of Physicians and Surgeons, Boston, 1900; died at his home in Bridgewater, Mass., December 29, aged 38.

Henry Frederick Mueller, M.D. Kentucky School of Medicine, Louisville, 1889; died at his home in Sauk City, Wis., November 23, aged 53.

William T. Pulliam, M.D. Medical College of Indiana, Indianapolis, 1882; of Tuscola, Ill.; died in Tolono, Ill., November 30, aged 63.

William Roy Genung, M.D. New York University, New York City, 1852; died at his home in Fort Branch, Ind., January 4, aged 87.

Dascom A. Farrington, M.D. University of Buffalo, N. Y., 1863; died at his home in Holland, N. Y., December 30, aged 76.

Henry Flood, M.D. Bellevue Hospital Medical College, 1874; died at his home in Elmira, N. Y., about December 30, aged 62.

John J. Kirksey, M.D. Medical College of Georgia, Augusta, 1888; died at his home in Saluda, S. C., November 20, aged 59.

Samuel E. Newton (license, Utah, five years' practice, 1894); died at his home in Salt Lake City, December 29, aged 86.

D. H. Key, M.D. New Orleans School of Medicine, 1860; died at his home in Monroe, La., December 7.

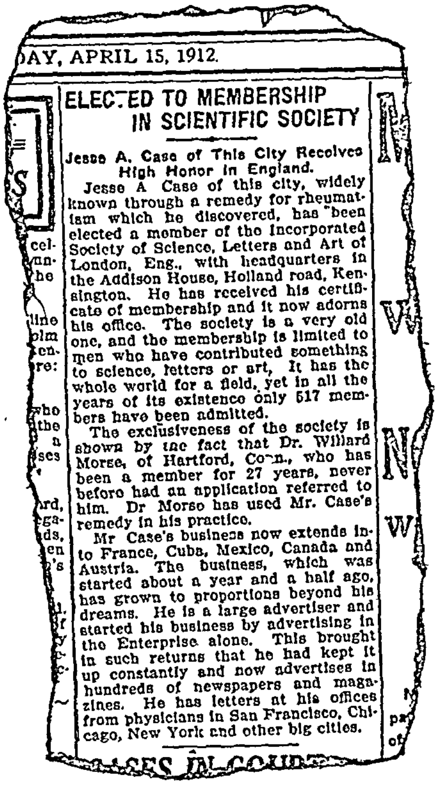
The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

CASE'S RHEUMATIC SPECIFIC

Sodium Salicylate as a Wonder Worker

"Case's Rheumatic Specific is not to be compared with any other treatment or medicine for Rheumatic diseases." So says Jesse A. Case of Brockton, Mass., "sole proprietor" of this widely heralded "specific." Mr. Case is not a physician but has after his name the letters "F. S. Sc., London." This title seems to appeal to Mr. Case for among his advertising matter is a photographic reproduction of an item appearing in a Brockton newspaper to the effect that "Jesse A. Case of This City, Receives High Honor in England." The "high honor" referred to is Mr. Case's election to "membership" in a "scientific society," namely, the "Society of Science, Letters and Arts of London." Says Mr. Case:



AY, APRIL 15, 1912.

ELECTED TO MEMBERSHIP IN SCIENTIFIC SOCIETY

Jesse A. Case of This City Receives High Honor in England.

Jesse A Case of this city, widely known through a remedy for rheumatism which he discovered, has been elected a member of the Incorporated Society of Science, Letters and Art of London, Eng., with headquarters in the Addison House, Holland road, Kensington. He has received his certificate of membership and it now adorns his office. The society is a very old one, and the membership is limited to men who have contributed something to science, letters or art, It has the whole world for a field, yet in all the years of its existence only 517 members have been admitted.

The exclusiveness of the society is shown by the fact that Dr. Willard Morse, of Hartford, Conn., who has been a member for 27 years, never before had an application referred to him. Dr Morse has used Mr. Case's remedy in his practice.

Mr Case's business now extends into France, Cuba, Mexico, Canada and Austria. The business, which was started about a year and a half ago, has grown to proportions beyond his dreams. He is a large advertiser and started his business by advertising in the Enterprise alone. This brought in such returns that he had kept it up constantly and now advertises in hundreds of newspapers and magazines. He has letters at his offices from physicians in San Francisco, Chicago, New York and other big cities.

This reproduction of a "news item" from the Brockton (Mass.) *Enterprise* is extensively distributed by Case in his advertising campaign. The "scientific society" referred to is a fake concern that sells "fellowships" at one guinea ($5.00) each to those who desire to write the letters "F.S.Sc. (Lond.)" after their names.

> "I feel proud of the fact that I have been elected a member of the Incorporated Society of Science, Letters and Art of London, England, with headquarters at Adderson House, Highland Road, Kensington. The membership is limited to those only that have contributed *something* to Science, Letters or Art."

The Journal has exposed this particular seriocomic fraud so often it hesitates to refer to it again. The "Society of Science, Letters and Arts of London" is a concern which sells "fellowships" at a guinea apiece to persons who desire to display an air of erudition by writing the magical letters "F. S. Sc. (Lond.)" after their names. As an advertising asset "fellowship" in this "society" is easily worth the five dollars it costs and, naturally, these "fellowships" are much sought by quacks and "patent medicine" venders.

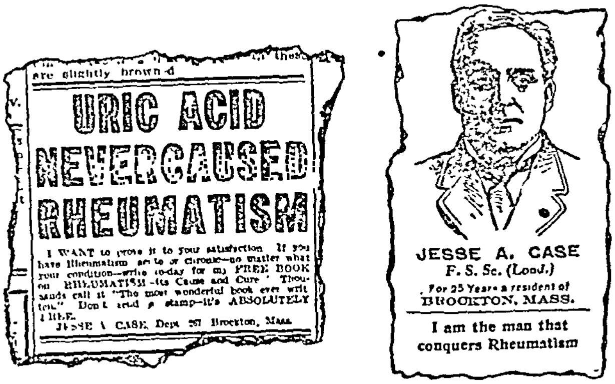
Before leaving the subject of the Society of Science, Letters and Arts, it is worth noting that Mr. Case's application for "fellowship" is alleged to have been passed on by Dr. Willard H. Morse of Hartford, Conn. Dr. Morse is a professional testimonial-giver who has furnished fake analytical reports on fraudulent consumption "cures," epilepsy "cures," blindness "cures," etc. In such a business, Dr. Morse finds the letters "F. S. Sc. (Lond.)" a useful asset, which doubtless accounts for his "fellowship" in that society.

Incidentally one of the most imposing testimonials sent out by Jesse A. Case, F. S. Sc. (Lond.), comes from Dr. Willard H. Morse, F. S. Sc. (Lond.), who testifies regarding Case's rheumatism "cure": "The Case treatment is extremely efficacious. . . . I have no hesitation in referring to this form of treatment as specific."

Jesse A. Case reaches his customers by the usual route—advertisements in the newspapers. In these advertisements he features a free book on "Rheumatism—Its Cause and Cure" and, *on these grounds*, he maintains that he does not advertise his *product*. Those who write for the book receive a sixteen-page pamphlet telling all about the "rheumatic specific." Mr. Case's claim, therefore, *that he does not advertise his preparation* is merely an example of beating the devil around a stump. He advertises his booklet and his booklet advertises his nostrum!

The direct claims made in Case's Rheumatic Specific are to the effect that it is "something different"; the inferential claim is that the stuff does not contain salicylates, for instance:

> "Case's Rheumatic Specific is guaranteed not to contain the slightest portion of any opiate of any kind or nature. No Salicylic Acid. . . ."
>
> "I also guarantee it not to contain . . . salicylic acid . . ."
>
> ". . . we have yet to learn of a single case of Rheumatism, Gout or Lumbago, where Case's Pills taken as directed did not work a cure."
>
> ". . . my treatment is not like any other."



are slightly browned

URIC ACID NEVER CAUSED RHEUMATISM

I WANT to prove it to your satisfaction. If you have Rheumatism acute or chronic—no matter what your condition—write to-day for my FREE BOOK on RHEUMATISM—Its Cause and Cure." Thousands call it "The most wonderful book ever written." Don't send a stamp—it's ABSOLUTELY FREE.

JESSE A. CASE, Dept. [illegible] Brockton, Mass.

JESSE A. CASE
F. S. Sc. (Lond.)
For 25 Years a resident of
BROCKTON, MASS.

I am the man that conquers Rheumatism

On the left: a typical advertisement of Case's Rheumatic Specific. *Because* he does not mention the name of his preparation in the advertisement but urges the reader to send for a booklet which does puff the nostrum, Case claims that he does not advertise his medicine! On the right: a reproduction of a portion of one of Case's envelopes. He misses few opportunities to feature his title "F.S.Sc. (Lond.)".

Case sells his preparation in packages of two sizes—a "ten days treatment" at one dollar and a half and a "forty days treatment" at five dollars. Those purchasing the one dollar and a half treatment receive from Mr. Case the encouraging information—after paying their money: "I do not expect that you will get any results with this small amount of medicine . . ."

Specimens of Case's rheumatic specific were obtained and the preparation was subjected to analysis. The dollar-and-a-half package comes in a small cardboard box bearing these statements:

> "Case's Rheumatic Specific."
>
> "Cures where all else fails rheumatism; muscular, sciatica, lumbago, gout, neuralgia, neuritis."
>
> "The Medicine With 10,000 Cures."

In the box are two circular pill boxes, one of them labeled, "Rheumatic and Gout Pills"; the other, "Bilious and Liver Tablets." The former are large white pills, thirty in the box; the price of these thirty pills is one dollar. The latter are yellow-coated tablets, ten in the box, price fifty cents. Our chemists examined these pills and tablets and reported as follows:

LABORATORY REPORT

"Case's Rheumatic and Gout Pills: The pills had a coating composed of calcium sulphate and sugar. After removal of the coating the pills were dark brown, somewhat soft and

of a sweet taste, resembling licorice root. The average weight of the pill, minus the coating, was 0.313 gm. (about 5 grains). The pills, freed from coating, were analyzed with the following result. Qualitatively the presence of the following was demonstrated: sodium, magnesium, calcium (small amount), potassium (small amount), salicylate, sulphate (small amount) and licorice root. The licorice root was identified by aid of the microscope. After ignition the weight of the ash was 31 per cent.—3.5 per cent. being silica and calcium sulphate, the latter probably derived from the coating.

"The pills were found to have, essentially, the following composition:

Sodium salicylate	22.4 per cent.
Magnesium Oxide	5.3 per cent.
Licorice root to make	100 per cent.

"Each pill contains about 0.06 gm. (1 grain) of sodium salicylate.

"*Case's Bilious and Liver Tablets:* These are yellow-coated tablets, the coating being composed essentially of calcium sulphate and sugar. The tablets, freed from their coating, were found to consist essentially of licorice root with aloin or some preparation of aloes, as the purgative agent. Belladonna and strychnin were not found."

From the chemist's report we learn that Case's "treatment" for rheumatism is practically the same treatment that has been used for years—the administering of salicylates. Yet in Case's booklet the inference is given that his "specific" is a herb that he discovered by chance! That pills of sodium salicylate, whether with or without licorice and magnesia, will have some effect in selected cases of rheumatism, there is no doubt. Sodium salicylate and other salicylates are given daily by physicians for certain forms of rheumatism. There is also no doubt that in exploiting his product as a "specific," in implying that it contains no salicylates and that every case of rheumatism will be cured by it, Case is perpetrating a fraud on the public. That there is money in selling pills containing sodium salicylate, licorice root and magnesia at more than three cents apiece, is doubtless true; that the public gets value received is certainly not true.

THE HORD SANITARIUM

"*Propaganda for Reform Department:*—One often hears it declared that the present time is the worst ever known for a young man to make a fortune or get a start to one.

"All a mistake, as the enclosed letter from the Hord Skinatarium will certify. At $25 this equals $2,500 for 100 cases, $25,000 for 1,000 cases, and all any young doctor needs is a little push to be as rich as J. D. in a few months. If you know of any cases send 'em in and get your $25.

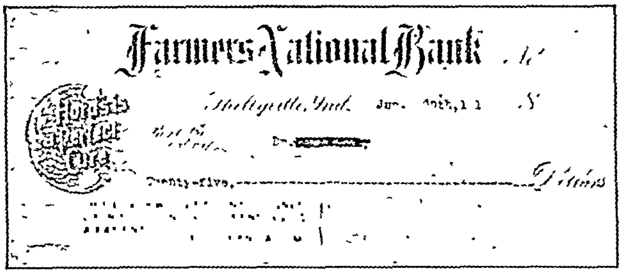
"K. T. Crossen, M.D., Carbondale, Ohio."

With his letter Dr. Crossen encloses a circular letter from the Hord Sanitarium, "For Liquor and Drug Habits, A Cure Positively Guaranteed," and an unsigned check on the Farmers National Bank, Shelbyville, Indiana, for $25 payable to himself. Printed on the check in large red letters is the statement:

> "This check will be countersigned upon you bringing or sending us a patient."

The Journal has received these circular letters and unsigned checks by the hundreds from physicians who have expressed very frankly their contempt of the kind of business the Hord Sanitarium is engaged in. These correspondents seem to have overlooked the fact that The Journal has already commented editorially on this particular insult to the medical profession. For this reason we reprint the editorial note, "Ethics!" from The Journal, Sept. 27, 1913:

"We will pay you $25 for each patient that you bring or send us." Thus, to physicians, writes the Hord Sanitarium of Shelbyville, Indiana, and continues: "We have a perfect and an absolute cure for all liquor and drug addictions." Fearing doubtless that those to whom these offers are made may be disgusted with the first proposition and will realize the evident falsity of the second, the concern encloses a list of references "showing the high moral and professional standing of our sanitarium." The Hord Sanitarium emphasizes further that it does a strictly "no cure no pay" business. Suspiciously similar is the offer made by the Mizer Sanatorium of Coshocton, Ohio, Blake V. Mizer, manager. Not many months ago Mr. Mizer was running the Hord Sanitorium (the concern's own spelling), which at that time advertised "the only guaranteed cure." Now, Mr. Mizer hurls invectives at those concerns that make "unreasonable guarantees" and adds virtuously that "we resort to no such unethical and pretended guarantee in order to do business." Nevertheless, in small type in the northwest corner of his stationery, Mr. Mizer admits that his "proposition" is no cure no pay. The fees of the Mizer Sanatorium "are $125 to $250, depending on the room." The physician's rake-off is "20 per cent. of the above." "This," explains Mr. Mizer blandly, "is simply a matter between ourselves and does not concern the patient in any way." Of course not. All the patient has to do is to pay the bills. And the Mizer Sanatorium is "conducted along ethical . . . lines"—Mr. Mizer says so. The Mizer Sanatorium has odd ideas of what constitutes ethics, medical or otherwise, for not long ago it advertised, in such medical journals as would accept its "copy," that "medical ethics prevents the statement here of the whole truth about the Mizer treatment." Of course medical ethics never prevented truthful statements of any kind. A dirty business; no other words express it. When the Hord Sanitarium and the Mizer Sanatorium claim to cure all cases of drug or liquor addiction, they make claims that are false—cruelly false. When these concerns try to drum up trade by offering secret commissions to physicians they insult an honorable profession. The fact that they send out this sort of advertising matter is presumptive proof that there are some physicians who will patronize them. Such as do so are unfair to their patients and untrue to the ideals of medicine.



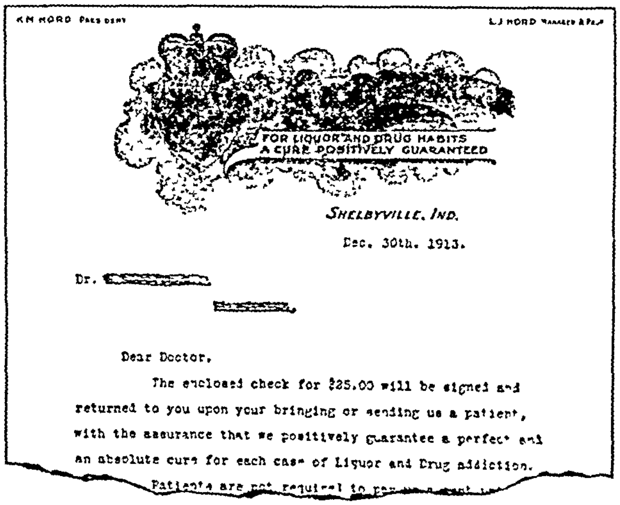
Farmers National Bank

Shelbyville, Ind. [illegible]

Dr. [redacted]

Twenty-five,——————————————Dollars

Fig 1.—Photographic reproduction of the unsigned check that the Hord Sanitarium sends to physicians.



K M HORD President

L J HORD Manager & Treas.

FOR LIQUOR AND DRUG HABITS
A CURE POSITIVELY GUARANTEED

Shelbyville, Ind.

Dec. 30th. 1913.

Dr. [redacted]

[redacted]

Dear Doctor,

The enclosed check for $25.00 will be signed and returned to you upon your bringing or sending us a patient, with the assurance that we positively guarantee a perfect and an absolute cure for each case of Liquor and Drug addiction.

Patients are not required to

Fig 2.—Part of the letter that accompanies the check for twenty-five dollars.

ANUSOL SUPPOSITORIES

To the Editor:—In the "Propaganda for Reform" department of the October 11 issue of The Journal, you published a short notice on Anusol Suppositories. We desire to correct the impression which your readers may have received, viz: that there is any actual difference between Anusol Suppositories of the present and Anusol Suppositories of the past. We wish therefore, to state that the composition of Anusol Suppositories has not been changed; the only modification that we have made is a revision of the label to the effect that the active medicinal ingredient of the preparation is a mixture of bismuth oxyiodid and bismuth resorcinsulphonate in place of bismuth iodoresorcinsulphonate. The latter was originally claimed by the manufacturers, discovered to be doubtful by an investigation in the laboratory of the American Medical Association, as well as by one on the part of a foreign chemist, and finally disproved to our satisfaction by an independent investigation on our part. We feel that the remark "What will the formula be four years hence?" will carry the impression to your readers that the composition has frequently been changed and is likely to be changed again, and it is for this reason that we request the above correction and an assurance to the contrary.

The statement in the note that "Anusol Suppositories have been proved to contain no Anusol" is also likely to create an entirely erroneous impression. We dropped the use of the word "anusol," as designating a definite chemical substance more than two years ago, and changed all our propaganda matter accordingly.

Schering & Glatz.

Correspondence

Intraspinous Injection of Salvarsanized Serum

To the Editor:—In an article on this subject (The Journal, Jan. 17, 1914, p. 183), Dr. William H. Hough, after giving the opinions of certain other workers, states that with the exception of Myerson they believe this to be the best method yet found in the treatment of paresis and tabes.

Ordinarily I should not take exception to a misquotation in a paper; but in this case, in which a new treatment is being discussed and it is very important to have the matter accurately presented, I believe that it will be of advantage to give my experience with the new form of treatment.

Contrary to Dr. Hough's statement, I believe salvarsanized serum to be the best form of treatment for paresis and tabes which we have yet devised. The results quoted in my report in the *Boston Medical and Surgical Journal*, Sept. 18, 1913, and my statement at that time, indicate this so plainly that I am surprised at the position assigned to me by Dr. Hough. At a discussion in the Boston medical library a short time ago, however, I did state that we were not going to *cure* paresis, in my judgment, by this new treatment. I believe that we can influence its course but cannot cure it. I stated at that time my reasons for this belief, as follows:

First, none of my patients showed any very marked clinical improvement which was permanent and could not be credited to a remission of paresis.

Secondly, this treatment, so far as it applies to paresis, is based on a fallacy; this fallacy is that the nervous system, especially the brain, is not accessible to medicaments introduced into the blood-stream. The effects of opium, strychnin, chloral, bromid and a dozen other drugs, as well as the fact that the brain is readily supplied with blood-vessels which permeate to its deepest parts, absolutely disprove this. When a substance does not affect the nerve-cells, it is because its chemical and biologic properties make a union between them impossible, not because of any remoteness of the nervous system in relation to the blood-stream. Furthermore, it is assumed that a substance introduced into the spinal canal penetrates the nervous system better than does a substance introduced into the blood-stream. The fact that the normal flow of the spinal fluid is *away from* the nervous system contradicts this.

For local diseases, intradural injection is of paramount importance. For example, cerebrospinal syphilis, meningitis and tabes, in which the initial meningitis is of moment, offer a good field; but in paresis, the damage reaches deep into the nervous substance, and the blood-stream has better access to this than the cerebrospinal fluid.

In conclusion, let me state again that I believe this treatment is a good one in nervous syphilis and ought to be used even in paresis, or at least tried out. My results, however, which I shall publish in detail later, as well as theoretical considerations, make it seem unlikely to me that a permanent cure or arrest of paresis is possible with this treatment.

A. Myerson, M.D., Taunton, Mass.

Report on Subscription Funds

To the Editor:—I beg to make two financial reports through The Journal to the donors as follows:

THE LISTER MEMORIAL FUNDS

A. For the Lister ward in Glasgow		$ 28.50
Of this there were forwarded to Mr. Ernest Maynard in Glasgow, Jan. 13, 1913	$ 25.00	
and to Mr. John S. Samuel, Hon. Treas., in Glasgow on May 3, 1913	3.50	
		$ 28.50
B. Undesignated subscriptions	$433.50	
Interest over and above expenses	1.70	
		$435.20
This was forwarded to Mr. Samuel May 3, 1913:		
C. For Tablet in Westminster Abbey	$ 5.00	
D. Undesignated subscriptions	433.50	
Interest over and above expenses	1.70	
		$440.20
This was forwarded to Sir W. Watson Cheyne, London, May 2, 1913:		
E. For the International Memorial Fund in London from the American Gynecological Society per Dr. J. Wesley Bovée, Treasurer, Washington, and forwarded to Sir W. Watson Cheyne, Jan. 16, 1914		$100.00
F. Undesignated contributions	$142.50	
Of this $127.50 were from members of the American Dermatological Society per Dr. Oliver S. Ormsby of Chicago..		
Interest over and above expenses	.92	
		$143.42

The undesignated funds, $143.42, were sent one-half to Mr. Samuel in Glasgow and the other half to Sir W. Watson Cheyne, Bart., in London, on Jan. 16, 1914.

The sum total, therefore, forwarded through me has been:

For the Lister ward in Glasgow	$ 28.50
Undesignated funds to Glasgow	435.20
For the tablet in Westminster Abbey	5.00
Undesignated funds to London	435.20
For the International Memorial Fund in London	100.00
Undesignated Funds, half to Glasgow and half to London	143.42
	$1,147.32

I should mention the very active interest in obtaining subscriptions shown by several friends, but especially by Dr. A. Vander Veer of Albany, N. Y., and Dr. Thomas W. Huntington of San Francisco. The zeal of Dr. Huntington seemed inexhaustible.

Besides the funds which I have been privileged to forward there have been forwarded:

From the College of Physicians of Philadelphia	$ 206.00
Through Dr. Lewis S. Pilcher from members of the American Surgical Association, including $500 subscribed by the Association from its own treasury	1,317.97
Amounts reported above	1,147.32
Total	$2,671.29

Not a few Fellows of the American Surgical Association and of the College of Physicians of Philadelphia sent contributions to me before the matter was taken up by these societies as such, and many others, members of other societies, have done the same, so that various national organizations, even unnamed ones, are really represented. There may have been also personal gifts made directly to London and Glasgow.

THE CANTEEN FUND

This money was contributed to print, obtain signatures to, and circulate a petition to Congress to pass the bill (H. R. 30) and thus to reestablish the so-called "canteen" in the United States Army.

My letter was dated Oct. 18, 1911, and I asked for $2 contributions. I stated that if any small balance finally remained I would give it to the general endowment fund of the Library of the College of Physicians of Philadelphia.

Amounts contributed in sums of $1 and $2................	$283.79
Expenses for printing, postage, express, etc...............	227.91
Balance on hand	$ 55.88

For this amount I have handed a check to Dr. George Fales Baker, treasurer pro tem. of the College of Physicians, on Jan. 17, 1914. W. W. Keen, M.D., Philadelphia.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

COLORED PROTECTIVE EYE-GLASSES

To the Editor:—What should be the color of glasses to protect the eyes against reflected sunlight, as from snow and water; also against wind?

What should be the shape of the lenses when refraction is normal?

I have been requested to advise patients in this regard. There appears to be some difference of opinion as to the color, blue, green, "smoked" and amber being recommended. Recently I read an article recommending a combination of green and yellow. E. T. H.

Answer.—These questions require different answers, as on the particular form of irritation to which the eyes are exposed depends the color of the glass which will afford the greatest degree of protection.

From our knowledge of the effect of rays of light of different wave-lengths, it has been possible to study this problem scientifically. We know that the rays of shortest wave-length are at the violet and ultraviolet end of the spectrum. These actinic rays, as they are commonly called, on account of their action on some of the silver salts, are also known as the chemical rays; they are made use of in photography. The rays of longest wave-length are the red and infrared rays, situated at the opposite end of the spectrum. These are known as the heat rays.

Persons exposed to strong sunlight, to the glare of water or the reflection from snow or from chalk-cliffs, suffer from the action of the actinic rays. The glass which possesses the greatest power to shut out these rays, and at the same time permits of the greatest amount of illumination, has been found to be a shade of amber. This may readily be demonstrated by looking at the spectrum through an amber-colored glass.

In a series of experiments made a number of years ago, Dr. Fieuzal demonstrated quite conclusively that a certain tint of amber, containing more of the green than the amber commonly used (which is more yellowish), had the greatest effect in excluding the maximum amount of actinic rays while excluding the minimum amount of illumination. The Fieuzal glass therefore gives one almost normal perception minus the irritating constituent of the light, and with the least change in the natural colors of visible objects.

In ametropic conditions, the proper correction can be ground on lenses thus tinted, and worn constantly if desired. The most suitable form of lens for this purpose is the large oval shape, ground on toric or meniscus lenses; they should be worn as close to the eyes as possible, to shut out any rays that might enter the eye around the edges of the lens. For persons in somewhat unusual situations, such as persons on an ocean trip, chauffeurs, locomotive engineers, aeronauts, etc., when temporary protection from sun and wind is desired, a most excellent device is the so-called "auto-glass" *made in* an amber tint. The lenses, joined over the nose by a hinge, are so large that they touch the cheek below and forehead above; they have the toric curve, and fit snugly to the face on every side. In this way they protect the eyes perfectly from both wind and glare, but their large size makes them too ungainly for ordinary street wear.

Certain occupations necessitate constant exposure of the eyes to intense heat as well as to strong light; glass-blowers and those employed about blast-furnaces suffer from this form of irritation. Under such conditions the eyes should be protected as much as possible by glasses which most effectively shut out the heat rays, at the same time affording sufficient illumination. This result is best obtained by a shade of blue. A much greater amount of illumination is excluded by blue than by amber, and hence it is unwise to attempt to protect the eyes by blue glasses while reading either by sunlight or artificial light, as the illumination is so much reduced that the effort to see clearly would cause added strain to the eyes. Amber glass furnishes the needed protection without very much diminishing the illumination.

It can be stated as a safe rule that smoked glasses should be worn only when prescribed by an oculist.

In certain inflammatory conditions in which it is unnecessary or even undesirable to bandage the eyes, smoked glasses are sometimes used; but this class of cases forms a group by itself and should not properly enter the present consideration.

THE PHYSICIAN AND THE MANUFACTURING PHARMACIST

To the Editor:—1. Is it ethical for a practitioner of medicine to own stock in a corporation which manufactures pharmaceuticals?

2. Is it right for a physician who owns such stock to prescribe the preparations manufactured by the corporation?

3. Is it right for a physician to hold a financial interest in or to participate actively in the business management of such a corporation, even if he prescribes the firm's products only when honestly indicated and because he believes in them, and because he has nothing but the patient's welfare at heart?

B. C. A., M.D., New York.

Answer.—1. Can a practicing physician, a human being, avoid being biased—just a little—in his judgment of the pharmaceutical products of a manufacturing corporation in which he holds stock? Unless he keeps his connection with the company secret from his patients and his fellow practitioners, would he not constantly be on the defensive? Do not answers to these questions show such a position to be far from ideal?

2. It is "unethical to prescribe or dispense secret medicines or other secret remedial agents, or manufacture or promote their use in any way" (Section 6, Article 1, Chapter 2, Principles of Medical Ethics). If the products are not secret, prove by questions suggested in Answer 1 before prescribing them.

3. That little word "if" is important. Again the question: Can the ordinary human being avoid being biased under the circumstances?

JACKSON'S MEMBRANE—EFFECT OF REMOVING THE TONSILS

To the Editor:—1. What is Jackson's veil?

2. The statement has been made that the complete removal of the tonsil in a small child is apt to result in asexualization of the patient. The operator making it had partially removed them in a specific case and when subsequent hypertrophy of the remaining portions began to cause considerable inconvenience, the statement was made as a reason for the incomplete removal at the first consultation. Is there any authority for the statement being true in any degree? X. Y. Z.

Answer.—1. Jackson's veil, or membrane, is a delicate membrane extending from the parietal peritoneum of the right flank across the front of the ascending colon to the inner side and continuous above with the transverse mesocolon.

2. Some authors have asserted that the tonsils have an internal secretion, but this assertion is not sufficiently recognized to secure the tonsils a place in the usual lists of ductless glands. Chassaignac is credited with believing that the hypertrophy of these organs tends to hinder the development of the genital organs, thus forming an indication for their removal. There is no reliable evidence that the removal of the tonsils has any deleterious effect on the general condition, but there is abundant proof that the results are in many cases decidedly beneficial.

LESSENED ALKALINITY AND NERVOUS BREAK-DOWNS

To the Editor:—Could a lessening of the alkalinity of the blood be the cause of periodic nervous breakdowns? H. M. M.

Answer.—Not enough is known with reference to the reaction of the blood in various diseases to make it possible to say what the effect of a lessening of the alkalinity would be. To assign it as the cause of a nervous breakdown would be a plausible but very hypothetic and uncertain explanation. It would be an evading of the real question, for the lessening of alkalinity and the nervous affection are each probably the result of some underlying cause.

DISSEMINATION OF MEASLES

To the Editor:—What is the present understanding in regard to the dissemination of measles?

H. H. Ainsworth, M.D., Cody, Wyo.

Answer.—Measles is communicated mainly by contagion. Fomites play a very small part in transmission. The disease is communicable during the prodromal fever and the period of eruption. Some believe that contagion may also be found in the discharge of the nose and ears. Patients with measles should be isolated until the eruption has disappeared.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

INDUSTRIAL STRUGGLES OF PHYSICIANS ABROAD

The dispute in Germany between the insurance societies and the medical profession, which threatened to come to a crisis with the first of January, apparently has been averted, for the time being, through the mediation of the universities, which have endeavored to bring the disputing parties together.

The German secretary of state for home affairs, with the Prussian ministers of trade, agriculture and the interior, the three ministers in whose hands the enforcement of the law is placed, received a delegation from the German universities representing the medical faculties. These representatives presented the claims of the medical profession and urged that they be given careful consideration by the government, and that every effort be made to prevent the newly enacted insurance law from being rendered incapable of enforcement, to the injury of large numbers of insured laborers. The result of the conference was that the secretary of state for home affairs agreed to make an effort to bring about a settlement which would be satisfactory to both sides of the controversy, while the representatives from the universities agreed to use their influence with the medical profession to secure the acceptance of reasonable conditions. The terms which were finally agreed on provided for a district committee for each insurance area, consisting of equal representation of the medical profession and the insurance societies, with a chairman for each committee who shall be neutral and probably appointed by the government. These district committees will be empowered to formulate contracts for medical services which must comply with certain definite conditions, to make a list of physicians who are willing to serve in the districts as insurance society doctors, and to act as a committee of arbitration in the settlement of disputes. The agreement provides that the rate of remuneration shall not, under any circumstances, be less than 25 marks—$6.25—per year per person, and that the district committee can increase but cannot reduce this compensation below this minimum. Insured persons are to have the privilege of choosing any physician from the list prepared by the committee. All existing contracts are to be confirmed, but agreements made by the societies with physicians for the purpose of compelling the medical profession to accept the terms offered by the societies are to be canceled and the physicians interested are to be compensated for such termination of contract, the funds for the annulment of such contracts to be equally subscribed by the insurance societies and the physicians' organizations.

As the points under dispute were the representation of physicians on the local committees, the amount of fees and the status of those physicians who were being used by insurance societies to force the acceptance of their terms, the agreement can be regarded as a satisfactory victory for the German medical profession. The conditions under which the existing contracts of the so called "strike breaking doctors" are canceled is worth noting. The medical profession and the insurance societies, the two bodies most interested, united in furnishing the necessary funds for buying up and canceling these contracts.

The agreement provides that new contracts are to be signed by individual physicians and not by medical organizations. They are to cover a period of ten years. When the terms were submitted to the medical societies they were at first somewhat criticized, but the fact that they provided for arbitration of disputes and for the cancellation of contracts of those physicians who had not conformed to the agreement adopted by the bulk of the profession finally led to their acceptance. According to the Berlin newspapers, the entire conflict has been a benefit to the profession, in that it has brought them together and strengthened their organization in a way that nothing in previous years has done. This is particularly true of the larger cities, where the medical organizations have heretofore been weak.

In Great Britain the discussion over the operation of the insurance act continues. A recent article in the London *Times* under the title "The Revolt of the Junior Medical Officer" discusses the prospects of the young physicians under present conditions, laying special emphasis on the growing demand for increased compensation for junior medical assistants in hospitals and sanitaria and in private practice. Commenting on this article, the *British Medical Journal* says editorially that while the compensation for assistants has undoubtedly advanced, it has been advancing for many years, and this advance is not due to the insurance act. This is also true of the demand for increased compensation among ship surgeons. The *Journal* denies that the insurance act will produce any embarrassment of riches among physicians in cities and in industrial centers. It admits that certain physicians in certain industrial districts have benefited by the practice of the act. "It is true," says the writer, "that for a certain class of men from whom under previous conditions they (practicing physicians) received little or nothing the doctors are now receiving remuneration, but this must be discounted by the lowering of the rates in other grades of insured persons, such as highly skilled artisans, clerks, shop assistants and others." The truth seems to be that while physicians are not paid as much for the same services as they formerly charged, or claimed to charge, yet they are being paid for a larger percentage of their work than formerly and are relieved of some of the uncertainty and expense of collecting bad debts, etc.

At a recent meeting of the National Medical Guild of England, the question of trade unionism in the medical profession being under discussion, the president of the guild stated that the organization was registered under the "Trades Union Act" and called attention to the need of cohesion in the medical profession to meet the present economic situation. One speaker in favor of medical trade unionism declared that under existing conditions such a union was practically a necessity, that the whole question of state insurance would be opened up for general discussion, and that the medical profession must be better prepared to defend its interests than it was in the recent struggle. Many of the insurance societies considered the present morbidity rate abnormal and felt that physicians were being paid too much for their services. As a result, they will unquestionably make an effort to reduce the rate of compensation to physicians at the first opportunity. In order to protect the rights and interests of physicians it would be absolutely necessary to have an ample supply of funds which could be secured only by the organization of a medical union. The speaker argued that the British Medical Association should become a trade union on one side of its work and a scientific body on the other, if this were possible from a legal point of view. Representatives in Parliament, as well as an organization that would be capable of prompt action were also necessary. Politicians, insurance societies and the general public were supporting a proposition for a state medical service which would be most injurious to the profession and which would be effectively opposed only by a properly organized and united profession. Another speaker deplored the apathy of physicians and the difficulty of arousing them to activity in their own interests. Further discussion was in favor of and led to the adoption of resolutions pledging the support of the organizations to a trade union in the medical profession which would have the machinery and the means for defending the interests of physicians.

In Belgium the semicentennial of the Belgium Medical Association finds 75 per cent. of the profession in the country enrolled as members. According to the *Gazette médicale belge*, only the lack of local associations to which they can belong keeps many others from joining. In German Bohemia the profession is exceptionally well organized and united. In each week's issue of the *Prager medizinische Wochenschrift* appear directions to members regarding places to be avoided in selecting locations.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: New Haven, March 10. Sec., Dr. Charles A. Tuttle, New Haven. Homeopathic: New Haven, March 10. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Eclectic: New Haven, March 10. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

KANSAS: Topeka, Feb. 9-11. Sec., Dr. H. A. Dykes, Lebanon.

MAINE: Portland, March 10-11. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MASSACHUSETTS: Boston, March 10-12. Sec., Dr. Walter P. Bowers, Room 159, State House, Boston.

MISSOURI: Jefferson Hotel, St. Louis, Feb. 9-11. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEBRASKA: Lincoln, Feb. 11. Sec., Dr. H. B. Cummins, Seward.

WYOMING: Laramie, March 10-12. Sec., Dr. H. E. McCollum, Laramie.

Maine November Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, Nov. 11-12, 1913. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 13, of whom 8 passed and 5 failed. Two candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Harvard Medical School..(1909) 82; (1911) 91;	(1912)	85
Tufts College Medical School ......(1910) 88;	(1913)	88
Columbia University College of Phys. and Surg. ..	(1904)	83
Syracuse University College of Medicine	(1911)	88
McGill University, Montreal	(1902)	89

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Boston (1911) 65, 68, 75*;	(1912)	65.
Maryland Medical College	(1910)	67

* Fell below 60 per cent. in one subject.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Hahnemann Med. College and Hospital, Chicago	(1906)	Illinois
Vanderbilt University	(1912)	Tennessee

Conference on Premedical Education, and Installation of Dean Holmes at Cincinnati

A special celebration was held in Cincinnati, Friday, January 16, on the occasion of the installation of Dr. Christian R. Holmes as dean of the Ohio-Miami Medical College, the medical department of the University of Cincinnati. Dr. William H. Welch of Johns Hopkins was the principal speaker and about forty representatives from various medical and liberal arts colleges were present. At the close of the ceremonies a portrait of the late Dr. Frederick Forchheimer, one of the founders of the medical college, was presented by Dr. Robert Stewart and was accepted by President Dabney on behalf of the university. The painting was the gift of Mr. and Mrs. William Mosler and was executed by the artist Henry Mosler, brother of the donor.

The installation of Dr. Holmes as dean of the university's medical department marks another epoch in the development of that school. Dr. Holmes has been the guiding spirit in the planning and erection of the new Cincinnati City Hospital, which is probably the most remarkable institution of its kind in the country. Meanwhile it is important to note that the medical department of the University of Cincinnati is to have entire control of the teaching facilities furnished by this hospital.

Saturday morning the guests were taken in automobiles on a tour of inspection, visiting first a portion of the medical school and then the various buildings of the new city hospital. At a special luncheon held in the university buildings Saturday noon a special conference on premedical education was held. Dr. William H. Welch was the first speaker, and referred to the problems confronting medical education, particularly of the need generally of a closer cooperation between medical schools and hospitals. Following the talk by Dr. Welch, Dr. N. P. Colwell, Secretary of the Council on Medical Education, presented the main problems in the administration of preliminary requirements. The statement was made that the greatest need was a routine by which the preliminary credentials of the medical student would be carefully verified, beginning with the work taken in the high school, and that these preliminary requirements should be so administered as not to hinder but rather aid in the development of the secondary schools.

Papers were then read by Henry B. Ward of the University of Illinois, on the teaching of zoology; by Michael F. Guyer of the University of Wisconsin, on the teaching of biology; by Lauder William Jones of the University of Cincinnati, on the teaching of chemistry; by President Brown Ayres of the University of Tennessee, on the teaching of physics, and by Vice-President Edgar E. Brandon of Miami University, on the teaching of modern languages. Following the conference some resolutions were adopted looking toward greater uniformity in the teaching of these premedical subjects and toward future conferences should they become necessary.

Saturday evening a special banquet was held at the Sinton Hotel, which was attended by about three hundred citizens of Cincinnati. At this banquet Dr. C. A. L. Reed acted as toastmaster, and the speakers of the evening were Dr. Holmes, Mayor Spiegel of Cincinnati; Dr. Welch; Dr. John A. Witherspoon, President of the American Medical Association; Dr Arthur Dean Bevan, chairman of the Council on Medical Education, and Mr. James Albert Green, a prominent citizen of Cincinnati. Dr. Robert S. Brookings of St. Louis, whose name appeared on the program, could not be present, but telegraphed an address of several hundred words, which was read.

Book Notices

INDIGESTION, CONSTIPATION AND LIVER DISORDER. By G. Sherman Bigg, Fellow of the Royal College of Surgeons, Edinburgh, [illegible] Native Followers' Hospital and Women's [illegible] ndia. Cloth. Price, $1.50. Pp. 163. New [illegible] 1913.

The subject of this book would form an excellent topic for an up-to-date work, for there is no field in which the expansion of medicine along the lines of modern research has been more marked. Certainly there is no subject of greater practical importance, for on the efficiency of the digestive apparatus depends the health of the individual. And yet, to the consideration of this topic the author brings the conceptions and therapeutics of the last century. There is scarcely a hint of modern diagnostic measures except that the Roentgen ray is occasionally mentioned. After the crudest explanation of the digestive process, the author enters on his task of prescribing. He slights dietetics and seldom inquires as to the underlying condition from which the symptoms result. As an example of the clearness of the advice given, we quote: "The question whether to begin treatment with an acid or an alkali is a matter for discrimination and can only be decided by a consideration of the existing symptoms, but in all cases of doubt it is wise to begin with an alkali as more likely to produce a satisfactory result." No hint is given as to what symptoms will indicate either acid or alkali, nor to what pathologic conditions the symptoms point. It is not suggested that the condition of the stomach could be determined by examining the stomach contents. "As regards dieting in indigestion," we are told, "the food which agrees best is the most suitable nourishment. . . ." Thus we are rid of all dietetic difficulties.

The following is the teaching regarding acidity:

"Acidity of indigestion results from fermentation of food and the subsequent formation of deleterious acids." The author seems unaware of the infrequency with which fermentation takes place in the stomach. To show that he is aware of the existence of hyperchlorhydria he adds, "It may arise, also, from excessive secretion of the natural acid of the gastric juice." A very injudicious feature of the therapeutics taught in this work is the frequency with which opium is resorted to for the relief of pain and distress in the digestive tract—a teaching that is to be emphatically condemned. The danger of producing a habit seems to be entirely disregarded.

Another interesting feature is the rather complete list of the proprietary specialties of a prominent English pharmaceutical house and a similar one of a noted American manufacturer. We do not mean that these are separate from the rest of the book; they are scattered throughout the work, appearing on nearly every page. The well-advertised Antikamnia, Antiphlogistine, Lactopeptin, Chionia, etc., are not neglected. The book is a genuine storehouse of nostrums, especially of the antidyspeptic variety. The author evidently was so fascinated with the claims of nostrum promoters that he could not keep them out of his prescriptions. The book illustrates the disgraceful fact that British medical men are to a large extent under the domination of proprietary interests. What is more discouraging, there seems to be no voice in the medical press raised against this abominable evil.

Malaria: Etiology, Pathology, Diagnosis, Prophylaxis and Treatment. By Graham E. Henson, M.D. With an Introduction by Charles C. Bass, M.D., Professor of Experimental Medicine, *Medical Department Tulane University. Cloth. Price, $2.50.* Pp. 190, with 27 illustrations. St. Louis: C. V. Mosby Company, 1913.

The importance of malaria as an endemic and yet preventable disease renders *a treatise on this subject of especial* interest at the present time. The measures necessary to combat this disease are similar to those which have been so successful in the extermination of yellow fever. On a small scale they have been successfully employed in Panama and in various localities in this country and India. The widespread character of the disease, however, has created a certain indifference to it, which has prevented the attempt at a thorough eradication. The work of Dr. Henson is well calculated to supply the knowledge necessary for a thorough campaign against the disease. Beginning with a study of malarial parasites, he describes the various forms and development of the organism, both in the blood and in the mosquito. The various malaria-bearing mosquitoes are also thoroughly described. The author then passes to the subject of the disease itself, which he discusses in considerable detail. It is singular, however, that we cannot find that he has mentioned blackwater fever, which is usually regarded as a symptom or a complication of malaria. With this exception, the discussion of the disease appears to be sufficiently detailed. A long chapter is devoted to the matter of diagnosis, both microscopic and clinical. The matter of prophylaxis is well treated, both from a public health and from an individual point of view. The subject of treatment amounts mainly to the methods of administering quinin. Other methods, such as, methylene blue, treatment with Roentgen rays, etc., are given very brief consideration. The book is well illustrated, and will undoubtedly prove useful to a large class of readers.

A Reference Handbook of the Medical Sciences Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Edited by Thomas Lathrop Stedman, A. M., M.D. Third Edition. Volume Two. Cloth. Price, $64 per set of 8 volumes. Pp. 882, with 365 illustrations. New York: William Wood & Co., 1913.

This volume covers a number of important subjects, which are given a treatment adequate to their importance in a form equivalent to separate treatises. Thus the subject "blood" with several subtitles occupies nearly ninety large pages, while the brain is discussed in more than 160 pages. The article on blood is extensive and describes in detail the methods of clinical examination. Thus the various steps in taking blood for clinical examination are illustrated by various figures showing the exact position of the hands of the examiner and the nature of all the manipulations. Under the examination of blood-stains the precipitin method is fully described, and the complement-fixation method is noticed but not recommended on account of its complexity and uncertainty. The histology and pathologic anatomy of the blood-vessels occupies twenty pages closely packed with detailed information. An article on cardiography includes the subject of the electrocardiograph, which is explained. Other minor subjects maintain a similar degree of excellence. This volume contains a large number of interesting contributions to medical biography, including a number of names of men and women who have made striking contributions to medical progress. A number of these are American, particularly Beaumont, Elizabeth and Emily Blackwell, Brainard and Buck. In every article are evidences that the information has been brought thoroughly up to date and is encyclopedic in character. The numerous and excellent illustrations add materially to the value of the book.

Dysenteries: Their Differentiation and Treatment. By Leonard Rogers, M.D., F.R.C.P., B.S., Physician to the Isolation Ward (Cholera and Dysentery), Medical College Hospital, Calcutta. Cloth. Price, $3.75. Pp. 336, with illustrations. New York: Oxford University Press, 1913.

It is an interesting fact that even within the last two decades there was no place for a book with this title, as up to that time there was no general agreement as to the existence of more than one form of dysentery. The author, who has taken a considerable part in the differentiation of the various forms of dysentery, treats the history of this development and shows that before the separate action of amebas and bacilli was recognized there was a division which, to a certain extent, corresponded to the present etiologic classification; that is, dysenteries were classified as simple dysenteries and those complicated with hepatic abscess. The latter class consisted almost invariably of forms of amebic dysentery. It is interesting to note the practical priority of American research in the differentiation of these two forms. Aside from the main forms of amebic and bacillary dysentery, the author recognizes the *Balantidium coli* and the *Bilharzia haematobia* as capable of producing dysenteric symptoms. The pathogenic action of the *Trichomonas intestinalis* and of the intestinal worms is not settled. In connection with the subject of dysentery the diarrheas of unknown origin, known as hill diarrhea and diarrhea alba or sprue, are briefly discussed. The author naturally places marked emphasis on the treatment of amebic dysentery by salts of emetin, and suggests the possible value of this remedy for balantidium and bilharzia. *The work is well illustrated, chiefly by pictures of pathologic* specimens, several of which are presented as colored plates.

Disease and Its Causes. By W. T. Councilman, A.M., M.D., LL.D., Professor of Pathology, Harvard University. Cloth. Price, 50 cents. Pp. 254, with 22 illustrations. New York: Henry Holt & Co., 1913.

In this volume Councilman has given a general view of diseases *for non-medical readers, considering it as the mani*festation of life in an organism not in harmony with its environment. The conception of disease as a manifestation of life necessitates a review of the properties and the characteristics of living matter. A large part of the book is devoted to describing the causes of the infectious diseases and the changes which the tissues undergo as a result of infection. A good historical review of the gradual discovery of the relation of micro-organisms to disease is given. The real inheritance of disease is denied, although the frequent transmission of infection along with the germ-cells is emphasized. The book is to be highly commended as being well calculated to give intelligent non-professional readers a clear account of the teachings of modern pathology.

Food and Feeding in Health and Disease. A Manual of Practical Dietetics. By Chalmers Watson, M.D., F.R.C.P.E., Assistant Physician, Royal Infirmary, Edinburgh. Second Edition. Cloth. Price, $5 net. Pp. 638. New York: William Wood & Co., 1913.

What was said regarding the first edition of this book might be repeated in reviewing the second edition. As the author says, he gives less attention to the chemical composition and heat values of food than to its influence on the digestive tract. In other words, the book deals more with the practical than with the academic phases of its subject-matter. As such, it will appeal to those who want a comprehensive handbook on foods and feeding, rather than a highly technical treatise on the science of dietetics.

Miscellany

Tuberculins and Tuberculosis Antiserums

This is the subject of a report prepared by a committee of the Muskogee County (Okla.) Medical Society and published in the *Journal of the Oklahoma State Medical Association* for January, 1914. The committee, which was created in October, 1913, reviews the history of Koch's tuberculin and notes that the remedy, which at one time had fallen almost into disuse, and even now does not seem to be growing in favor, is still used by some excellent men. Of the scores of biologic tuberculosis remedies that have followed Koch's pioneer work, each has had as its advocates one or more men of prominence, but so soon as it has attracted to itself the searching light of science, it has been found unable to meet its author's claims. The numerous serums, such as those of Maragliano and Marmorek, have not established themselves in the confidence of the medical profession.

The Friedmann "cure" is considered in the following words:

> We must apologize for even mentioning the Friedmann "cure," which has been declared by the general consensus of capable and unprejudiced observers to be worthless, and possibly harmful. Perhaps no other preparation with so little merit has ever been so sensationally advertised in the United States. It scarcely caused a ripple of interest in Germany, except as another illustration of the credulity and gullibility of Americans. The most unkindest cut of all was contained in a letter of the Berlin correspondent of THE JOURNAL of the American Medical Association, wherein he comments on the prevailing opinion among the Germans that American physicians are faddists and rainbow chasers, the opinion being abundantly confirmed by their reception of the Friedmann "cure." Now the truth is that the medical men of our country never looked on this preparation with other than a skeptical tolerance, which later changed to an active antagonism when it became apparent that Friedmann himself was here for the purpose of exploiting a tuberculin for which he had been scarcely able to obtain the barest recognition in his fatherland. The lay press is preeminently responsible for this monumental hoax and swindle on the American people—the lay press, aided and abetted by the attitude of many otherwise intelligent and responsible citizens. When the Friedmann sensation was at its height it was not uncommon to see expressions in the press and even hear them from those whom we know to be friends of our profession, to the effect that the doctors were fighting the Friedmann treatment because they were jealous of it. It is discouraging to realize the light in which we are held by the laity at large. Rascals there are among us, without doubt; but, on the other hand, medicine counts among its devotees many profound thinkers and self-sacrificing philanthropists. The majority of physicians have probably adopted their calling for two principal reasons: first, that they may earn a livelihood, and, secondly, that they may devote themselves unselfishly to a high calling. Were the first the only reason, few of us would be here this evening. We would be imbibing at the breast of a more lucrative occupation, and one less fraught with distressing experiences, anxiety, sleepless nights, and premature gray hairs. There is not one of us but would gladly welcome any remedy that would add to his efficiency against our mighty foe, the great white plague. We would not ask whether its originator were quack or sage, *friend* or foe, rival or coworker, so that we might hurry away to carry health to blighted homes and restore light to those that sorrow. But we consider it equally our duty to fight fraud and to resist the plundering of unfortunates. It is to be hoped that the deplorable Friedmann episode has at least had some effect in convincing the laity of the disinterested attitude of the great mass of our profession toward these remedies.
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> The principle of the Friedmann vaccine, the attenuation of the tubercle bacillus by passage through cold blooded animals, is not a new one. It was tried out by laboratory workers years ago. It was not used clinically because previous investigators had feared to experiment along this line on human beings. It has been well established that a culture that has become avirulent by repeated transmission through cold blooded animals, as well as by treatment with heat or chemicals or other methods familiar to bacteriologists, may unexpectedly reestablish its virulence and prove fatal to laboratory animals. There is no reason to believe that Friedmann has been able to provide against this contingency in human beings.

The following account is given of Piorkowski's vaccine:

> Recently Piorkowski has been investigating clinically a turtle tuberculin from which he claims to have had some very encouraging results. As to how this differs from the Friedmann preparation or in what respects it is superior to it, we are unable to secure definite information. Without at all desiring to impeach Piorkowski's motives, we will note that at present there is an effort to exploit this preparation in a way that cannot but prove very prejudicial to it in the eyes of sagacious men. The campaign of publicity followed immediately on the heels of an article of Beattie and Myers, which was noteworthy neither for the excellence of its English nor its scientific accuracy.
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> It is to be presumed that these attempts at exploitation are not sanctioned by Piorkowski himself. He would scarcely authorize the putting on the market, especially in such a sensational way, of a vaccine of which he himself has been quoted in a laudatory article as saying, in substance, that many thousands of cases must yet be treated before we can come to a final conclusion as to the value of the remedy. Nor is it likely that it would find a very large sale at $7.50 per c.c., were this honest estimate of its originator given the same publicity as the flattering advertisements. We must further remember that Fritz Meyer, who earlier was enthusiastic over the Piorkowski vaccine, stated before the Berlin Medical Society in June, 1913, that he had never seen a case of severe tuberculosis really improved by Piorkowski's vaccine.

A conservative estimate is given of von Ruck's preparation with a reference to the unfavorable findings of Cummins. The report concludes as follows:

> 1. There is a wide difference of opinion among those in a position to know as to the value of any specific treatment for tuberculosis, some affirming that, judiciously used, tuberculin exercises a valuable curative effect, others denying any superiority in results from the use of tuberculin over those obtained when dependence is had on hygienic measures alone.
> 2. Of those who employ tuberculin the vast majority still cling to Koch's preparation, either in its original, or in a slightly modified form.
> 3. Of those who employ tuberculin, the consensus of opinion is that the use of the remedy should be restricted to institutions where the patient can be kept under close supervision and control.
> 4. It is possible that some preparation now obscure may prove to be the long hoped for specific, or that future investigations may find such. While we should guard against unjust condemnation of even the least promising of therapeutic agents, at the same time we should be slow to give our sanction to any one of a class of products which has been made the means of so much financial piracy and has entailed such untold misery of mind and body on a multitude of unfortunates.

Number of Insane in Prussian Asylums.—There is a steady increase. *In* 1911 *there were* 132,982 (73,953 males and 59,029 females) as compared with 127,914 in 1910, 125,181 in 1909, 113,318 in 1907 and 73,955 in 1901. In 1911 there was an increase of 5,068, or 3.9 per cent., and in ten years the number has risen by 59,027 or quite 80 per cent. This increase has raised the question now so much discussed whether the figures indicate an actual increase or whether the rise is only apparent. Many alienists are of the latter opinion, and indicate as reasons for it the more exact registration of patients, the increase in asylums, the lessened dread of asylum life, the accumulation of chronic cases and the longer period of life of asylum inmates as the result of improvement in the sanitary conditions, the lesser mortality, the readmissions in various asylums, the greater attention given to mental diseases, etc. While as a general statement these reasons cannot be denied, still there is no question that modern civilization with its hurry and stress, the greater amount of intellectual exertion, stronger excitement, the misuse of alcoholic and narcotic drugs has as a result more mental disease than was formerly the case. If we take into consideration nervous diseases, morphin addiction, alcoholism, etc., the number of those cared for during the year of 1911 amounted to 147,143, of whom 55,390 were admitted during the course of the year. Among them were 3,004 persons under 16 years of age, 12,252 with hereditary taint, and 9,274 drunkards. Among the latter were 683 women.

Treatment of Infantile Dyspepsia by Sweetened Milk.—At one of the last sessions of the Académie des Sciences, Dr. Variot, physician to the hospice des Enfants Assistés de Paris, reported the good results that sweetened milk had given in infantile dyspepsia. He made the discovery by accident. A baby which had vomited all the milk given it from its birth was given sweetened condensed milk and much surprise was evinced in observing that the vomiting was stopped. In order to find if this was a mere coincidence or if condensed milk was the cause of this improvement, the sweetened condensed milk was tried on a number of dyspeptic and vomiting infants. The vomiting which had hitherto resisted all therapeutic means, including sodium citrate, decreased rapidly in number and frequency and disappeared completely at the end of a few days. Often the vomiting ceased on the very day or the day after the first feeding was given and sometimes immediately. Dr. Longeville, who devoted his inaugural thesis to this subject, believes that this remarkable result is not due to the mere condensation of the milk, for when condensed unsweetened milk was used the little patients continued to vomit. Moreover, when the sweetened condensed milk was replaced by unsweetened condensed milk, vomiting reappeared. Variot and Longevialle experimented by giving to vomiting dyspeptics a milk containing a high proportion of saccharose (10 per cent., that is to say, about the same quantity as unsweetened condensed milk); the results were the same as given by sweetened condensed milk. Of course, sweetened milk could not be employed in the regular feeding of infants, the proportion of sugar added being too large. The sweetened milk is a medicinal food, which can be used only temporarily. It is, however, capable of giving excellent service, for not only does it cause the disappearance of vomiting but it also regulates the digestion. Longevialle has seen infants who were much under weight, or whose weight had remained stationary for months, increase rapidly in weight and height.

Who Discovered Morphin?—The discovery of morphin is generally attributed to Sertürner according to an article by M. L.-G. Toraude just published in the last number of the *Bulletin des sciences pharmacologiques.* This discovery, like that of iodin, the centenary of which was recently celebrated at Dijon (The Journal, Dec. 6, 1913, p. 2080) was due to Courtois. In Dec. 24, 1804, Séguin, in whose laboratory Courtois was studying opium, placed before the Académie des Sciences a memoir in which his collaborator showed that from this opium he had isolated a crystallized body with alkaline reactions, capable of forming salts by combining with acids. This paper did not appear in the *Annales de chimie* until ten years later, but Courtois' lack of confidence in himself and the meagerness of his studies is a good excuse for this exaggerated modesty. This prevented him from being clear and decisive enough in his statements; he hesitated and made reservations with regard to the discovery. In 1817 Sertürner was bolder and reaped the glory that Courtois should have had.

Medicolegal

Validity of Statute Providing for Revocation of Licenses of Physicians Obtaining Fees on Representations that Manifestly Incurable Diseases Can Be Permanently Cured

(Graeb vs. State Board of Medical Examiners (Colo.), 135 Pac. R. 776)

The Supreme Court of Colorado holds unconstitutional the provision of the statute of that state authorizing the State Medical Board to revoke the license of a physician on the ground of "obtaining a fee on the representation that a manifestly incurable disease can be permanently cured." The court says that it could not enter into the question of the regularity of the trial of Dr. Graeb, before the board, or the sufficiency of the proof in the case, in which he had been charged with having obtained a fee on the representation that a manifestly incurable disease could be cured, by soliciting, demanding and receiving a fee and fees, on the specific representation that he could permanently cure one Shields of the disease known as consumption, of which the said Shields died. The whole question before the court hinged on what is, or whether there is, a distinctly "manifestly incurable disease." In other words, is this term sufficiently definite and specific as to constitute such an offense against the public morals and public welfare, as may be sustained by the courts, as being sufficient to justify the action of the medical board in this case? It will be observed that no disease is named in the statute as being manifestly incurable.

It was substantially admitted by counsel for the board that the statute would not be valid if construed to have reference to a disease manifestly incurable *per se,* or in itself, but it was contended that the court should construe the statute to have reference to any disease whatsoever with which the patient may be afflicted and of which disease he is in a manifestly incurable condition. But this position is not tenable. If the statute had intended a manifestly incurable person, or a manifestly incurable diseased condition, it would doubtless have so recited. The language is a "manifestly incurable disease." Clearly the descriptive words "manifestly" and "incurable" apply to the disease and not to the person or the condition of the person afflicted with the disease. If there is no disease known and understood to be manifestly incurable, then the statute states no offense in that particular, and the board was without jurisdiction in the premises.

Dr. Graeb in the complaint was charged with receiving the fee on the representation that he could cure the manifestly incurable disease, consumption, with which disease the patient at the time was afflicted. Counsel for the board said: "It is true that consumption is not a manifestly incurable disease in itself." Indeed, it was not contended that any disease is manifestly incurable, but, on the contrary, counsel for the board said: "The statutory provision does not proceed on the assumption that any disease by name, as such, is incurable, for a specific disease that is incurable to-day may be curable to-morrow through the advancement of medical science; but it proceeds on the undeniable fact, everywhere accepted, that diseased conditions do become 'manifestly incurable.'"

If, then, the State Board of Medical Examiners admit that neither consumption, the disease referred to in the complaint, nor any other disease is manifestly incurable, the court must hold as a matter of law that the statute, in so far as it is herein considered, is void because of insufficiency and uncertainty.

The only case cited by counsel for the board as tending to sustain the contention that the statute is not void for indefiniteness and uncertainty and considering anything like a similar statute was *Board vs. McCrary,* 95 Ark. 511. The statute considered in that case contained the words "chronic and incurable," which the present court regarded as different from and more definite than the words of the statute involved in this case.

It may be admitted that if Dr. Graeb was of the opinion that Shields' condition was incurable and so believed, and that having such opinion and belief he obtained from Shields a fee on the representation and promise that he (Graeb) could cure him permanently, such act on the part of Graeb would constitute such moral turpitude as might well furnish sufficient ground to deprive him of his license if there was a statute so providing. But the court has studied the statute in vain for any ground on which any such charge may be reasonably included and on which the board may revoke a medical license. The statute has omitted all such provisions as "dishonorable conduct" or such other similar causes as are common in like statutes and which have been sustained by the courts.

The statute is the sole source of the authority of the board and it assigns certain specified acts and conduct as may justify the revocation of a license. Yet it will be noted that even the commission of a crime involving moral turpitude is not a sufficient basis for revocation, but there must first be a conviction. Thus moral turpitude, except in case of conviction is eliminated as a basis for revocation under the statute. Quite clearly the causes designated in the statute are exclusive, and the maxim, "The expression of one thing is the exclusion of another," applies.

But, if the court were to concede the contention that the statute relates to the condition of the patient, and not to the disease with which he may be afflicted, when would the question of curability cease to be one of opinion and become a manifest fact? The court may concede that physicians of skill and experience can form a well-grounded opinion as to the question of curability, but of necessity this can be of no greater force than that of opinion and conclusion. Manifestation is specific demonstration to the eye, clear alike to all, skilled or unskilled. Then at what point short of death may we reasonably say that the ultimate result of such a disease ceases to be a question of opinion and becomes a manifest fact? The court is not willing to sanction a rule for punishment because of difference or mistake in opinion, or to agree that those of a skilled class may be penalized for an opinion differing from that of their fellows. If so, where is the court to draw the line of such difference, and who may be safely trusted to render judgment as between them? The court cannot concede the infallibility of man, nor deny the providence of God. If, then, it should adopt the reasoning of counsel for the board, the provision of the statute still remains too indefinite and uncertain to form the basis of a judgment for the revocation of a physician's license.

The opinion of the court was prepared by Justice Scott, with whom concurred Chief Justice Musser and Justices Garrigues and White.

In a dissenting opinion, concurred in by Justices Hill and Bailey, Justice Gabbert says: "The police power of government is inherent in every sovereignty. It is that power vested in the legislature which may be exercised by the enactment of laws, the purpose of which is to protect and promote the public welfare. That such is the purpose of the clause of the statute under consideration, and that its enforcement will protect the public, there can be no question. The majority opinion, however, decides that it does not for the reason it cannot be said there is any disease known and understood to be manifestly incurable. This is too narrow a construction.

"When is a disease manifestly incurable? Clearly when it is evident it has reached the stage that it cannot be made to yield to medical treatment. That is what laymen, as well as the medical profession, understand from the expression 'a manifestly incurable disease.' The intent of the law is to be considered in its interpretation, and, in ascertaining such intent, the evil against which it is directed must be considered. It is common knowledge that one suffering from disease can easily and readily be imposed on by those who, by reason of the fact that they have obtained a license to practice medicine, are presumed to possess that degree of skill in the treatment of disease which will enable them to accomplish that which they represent they can.

"The object of the statute is to prevent what would be nothing less than extortion by members of the medical profession, obtaining money from persons or the relatives and friends of those suffering from disease by promising a cure when it is apparent that the patient is beyond the reach of medical science. Such being the object of the statute, the words employed to express it should not be given such a narrow construction as will result in destroying its beneficent purpose, when from such language, and the general understanding of what it means, it is apparent that the legislature intended to prevent the helpless ill being imposed on by the promises of a cure when it was evident their condition was such that it could not be accomplished."

Duties of County Health Officers—Power of County Boards of Health to Employ Assistants in Cases of Epidemic

(Breckenridge County vs. McDonald (Ky.), 150 S. W. R. 549)

The Court of Appeals of Kentucky affirms a judgment in favor of Dr. McDonald for $540 for fifty-four days' services rendered during an epidemic of small-pox. He was employed by the county board of health to carry out the recommendations included in a report of a representative of the state board of health. The county defended on the theory that McDonald was employed by the county board of health to take general charge of the small-pox epidemic, and that the services rendered by him constituted the same service that was incumbent on the regularly elected health officer, a Dr. Kincheloe, whose annual salary as county health officer and secretary of the county board of health the latter had by proper resolution fixed at $75, and that neither the county board of health nor the fiscal court had the right to employ or pay a substitute to do the work of the county health officer.

The circuit judge in his findings of fact concluded that it was not the duty of the county health officer to administer treatment to patients suffering with contagious diseases, but that it was his duty only, under the statute, to take general superintendence of all contagious diseases and to institute quarantine and fumigate premises; and that the county board of health had power, under the law, to employ another physician to personally administer the treatment to patients. The proof further showed that by reason of the character of the disease, and the location of the patients at long distances from Hardinsburg, and from each other, it was impossible for the county health officer to give them the requisite personal attention without abandoning his home and practice. Some of these patients were located as far as seventeen miles or more from Hardinsburg. Dr. Kincheloe, however, not only consulted daily with Dr. McDonald by telephone, but he made three visits to Cloverport by way of supervision, spending the entire day there on each visit.

The whole question, the Court of Appeals says, resolved itself into this proposition: Can the county board of health employ agents or assistants for the health officer for the purpose of eradicating an epidemic at a distant point in the county, where the circumstances of location and the nature of the disease are such that the county health officer could not be expected to give his personal attention thereto in the ordinary course of his business? The court thinks that there can be no doubt of the right of the board so to contract.

The county relied on *Hickman vs. McMorris*, 149 Ky. 1, 147 S. W. 768, as denying that right. A careful reading of the opinion in that case shows, however, that it was not at all controlling in this case. In the McMorris case the county board of health had regularly appointed Dr. Scarborough as health officer; and, he having declined to discharge the duties of his office, the county board of health employed Dr. McMorris to perform the same duties, supervisory or otherwise, that the law imposed on Dr. Scarborough, and thus placed the county in the attitude of paying two men for precisely the same service. Under that state of case this court properly held that there could be but one county health office; it did not hold that the board could not employ the necessary assistants to enable the board and its health officer to protect the public health in times of epidemic. The contention of the county, if sustained, would forbid the board of health from employing but one physician in any case, and regardless of the necessities of the case or the amount of work to be done. In this instance Dr. McDonald at one time had as many as thirty-six cases in his locality which required his daily personal attention. It was impossible for Dr. Kincheloe to do this work and supervise the general health affairs of the county at the same time, and the court does not believe the statute contemplated that he should have done so.

The statute, in requiring the county health officer "to see that the prescribed rules and regulations are enforced," does not necessarily contemplate that he shall personally do the work. On the contrary, it contemplates rather a medical supervisory service over the employees and assistants of the board.

It is clear that the ordinary duties of the county health officer, for which he is paid a yearly salary, are largely executive and supervisory in seeing that the rules and regulations provided by law, and the rules and regulations of the state board of health, are enforced. As was well said by the chancellor, it is his duty under the statute to take general superintendence of all contagious diseases and to institute quarantine and fumigate premises, and to carry out these general purposes the county board of health has power, under the law, to employ such other physicians and nurses, guards and attendants as may be necessary to administer treatment and stamp out the disease. If there should be any doubt about the application of the foregoing rule as a general proposition, certainly there can be no doubt of its application in this case, since the treatment was not only widely extended but had to be administered at points distant from the county-seat in which the county health officer resided. His compensation was merely nominal and clearly did not contemplate that he should render the extraordinary services required in this case.

Society Proceedings

SOUTHERN SURGICAL ASSOCIATION

Twenty-Sixth Annual Meeting, held at Atlanta, Ga., Dec. 16-18, 1913

(Continued from page 328)

Treatment of Trigeminal Neuralgia by Deep Intraneural Injection for Anesthetic and Therapeutic Purposes

DR. RUDOLPH MATAS, New Orleans: Since the introduction of intraneural injections of osmic acid by Neuber, and especially of alcohol by Schlosser in 1907, I have devoted special attention to the technic of injecting the nerve-trunks for the relief of tic douloureux. More recently, however, I have gone a step further by attacking the gasserian ganglion itself. In the hands of an expert, the anesthesia of the trunks of the trigeminus at the basal foramina, more particularly the second and third divisions, and the gasserian ganglion itself, is a perfectly feasible and practical procedure which will render decided service in the surgery of the face. I will also permit of a satisfactory, safe and certain relief of trigeminal neuralgia especially when the exact localization of the nerve or the ganglion is determined by obtaining a complete and demonstrable anesthesia before the alcohol injection is made.

Cholecystectomy versus Cholecystostomy

DR. GEORGE W. CRILE, Cleveland: Considering all the consequences of infection, cholecystectomy shows a morbidity and a mortality lower than cholecystostomy. The clinical results of cholecystectomy are good, while in unsuitable cases cholecystostomy is followed by recurrent cholecystitis. I have seen no adverse effects from cholecystectomy, provided that the division is made at the beginning of the cystic duct, that no gall-bladder tissue is left, and that the division does not at all encroach on the common duct. If acute infection is present, then in most cases cholecystostomy should be first performed, followed if required by a later cholecystectomy. If the gall-bladder and the cystic duct are approximately normal, then the gall-bladder is left, cholecystostomy being the operation of choice. If the gall-bladder is thick, contains much scar tissue, is shrunken, shows chronic infection of the musculature and is much impaired, if the cystic duct is partially or completely strictured, or if a stone is impacted in the duct, then cholecystectomy is made.

Infraction of the Second Metatarsal Bone

DR. ALBERT H. FREIBERG, Cincinnati: I have had six cases of pain at the metatarsophalangeal joint of the second toe in which roentgenoscopy showed that there had been an infraction of the distal end of the second metatarsal bone. In three of the cases there were loose bodies in the joint, and in two of these cases they had to be removed in order to give relief. I saw no case less than four weeks after the injury, and in two cases there was no recollection of the injury. The trauma was always a slight one, occurring at tennis in three of the cases and consisting merely of a false step.

Aside from the roentgenogram, the diagnostic features are, the traumatic origin, thickening and marked tenderness of the second metatarsophalangeal joint and grating on passive movement if loose bodies are present. The treatment is purely mechanical save when loose bodies indicate arthrotomy for their removal, because of either their size or their number.

Open Treatment of Fractures

DR. GEORGE A. HENDON, Louisville, Ky.: The indications for the use of the Lane plate are as follows: (1) fractures that cannot be reduced by ordinary manipulations; (2) fractures that are difficult to maintain in reduction; (3) delayed union; (4) when good cosmetic effects are especially desirable, and (5) fractures communicating with a joint in

Fracture of the Neck of the Femur

DR. JAMES E. MOORE, Minneapolis: The indications in treatment of fracture of the neck of the femur are the same as in other fractures, namely, to bring the fragments into apposition and hold them there. This renders the capsule of the joint taut, and brings the floating short fragment into contact with the longer one. This side pull is brought to bear on the inner side of the upper end of the thigh by means of weight and pulley, the amount of weight being about one-third of that at the foot of the bed. Whitman's method of extreme abduction and retention by plaster of Paris will secure bony union, and is undoubtedly the best method for the treatment of children, but it is neither so comfortable nor so convenient as the "anatomic" method for adults.

Open Operation for Fractures

DR. FRANK MARTIN, Baltimore: Every known method should be made use of for the correction of fractures without operation, and only in failure to obtain good results after every good method has been tried are we justified in employing the open operation. The chief indications for the open operation are: If, after repeated attempts, the bone cannot be placed in apposition or cannot be maintained in apposition, the open operation should be resorted to. If, after reduction of fractures of long bones, no crepitus can be elicited, interposed soft parts should be suspected and the operation resorted to in order to prevent a delayed non-union. All open fractures as a rule should be cleansed, fixed, and if necessary drained. All cases of delayed non-union and all cases of vicious union should be subjected to immediate operation; no efforts at reduction without operation should be employed.

Diagnosis and Surgical Technic of Acute Abdominal Conditions

DR. JOHN YOUNG BROWN, St. Louis, considered at length gunshot and stab wounds of the abdomen, injuries to abdominal viscera, resulting from severe abdominal contusions and acute intestinal obstruction. The surgical treatment of gunshot and stab wounds of the abdomen was considered under four heads: preparation and examination of patients, method of locating injury to peritoneal viscera, repair of such injuries, and after-treatment. It has been his invariable custom to drain all gunshot and stab cases in which there was extensive soiling of the peritoneal cavity and severe hemorrhage existed. The drainage is accomplished by means of a glass tube introduced through a stab wound above the pubis and placed at the most dependent portion of the vesicorectal pouch.

Epithelial Hyperplasia in the Breast

DR. WILLIAM CARPENTER MACCARTY, Rochester, Minn.: The conditions which are associated with classical signs of carcinoma should be treated radically. The doubtful cases in women near or over 35 years of age should have the entire mammary gland removed for immediate examination. If primary or secondary hyperplasia be present nothing more should be done; if tertiary hyperplasia be present a radical operation should be performed. In doubtful cases in women near or under 35 years of age a wide section of the mammary gland, including the pathologic conditions, should be removed for examination. If primary hyperplasia be present nothing more should be done. If secondary hyperplasia be present the rest of the mammary gland should be removed, and if tertiary hyperplasia be present the radical operation should be accomplished.

This plan avoids incision of tumors. It removes the possibility of unnecessary radical operations and their physical and psychic embarrassment. It provides for a scientific means of determining more accurately the stage at which cancer may be cured by surgical operations and the extent of the operation which is necessary to effect such a cure. In the experience of the Mayo clinic the removal of the mammary gland preceding an immediate radical operation has not been associated with earlier recurrence than has been found after a primary radical operation.

WESTERN SURGICAL ASSOCIATION

Twenty-Third Annual Meeting, held at St. Louis, Dec. 19-20, 1918

(Continued from page 326)

Congenital Pyloric Stenosis

Dr. Roland Hill, St. Louis: The operation best adapted to these cases is posterior gastro-enterostomy. I have operated in ten cases; five patients recovered and five died. One of the five deaths was due to a kink, and the other four to complications existing at the time of operation. I performed a successful operation on a premature child 5 weeks old that weighed only 3 pounds and 15 ounces. This child gained 3 ounces in the first two weeks, 4½ ounces in the third week; 12½ ounces in the fourth week; 1 pound the sixth week, and still continues to gain at the rate of about 2 ounces a day. This is apparently the smallest child on record to recover after operation for this disease.

Ulcer of the Stomach in Children before Puberty

Dr. Charles D. Lockwood, Pasadena, Cal.: Ulcer of the stomach in children is relatively rare, but is probably much more frequent than heretofore believed. Many obscure abdominal conditions in children may be due to unrecognized ulcers. The rarity of ulcer in children is explained by the position of the child's stomach, permitting rapid emptying, the small amount of hydrochloric acid present and the good motility. The factors favoring ulcer are malnutrition, tuberculosis, burns, local injuries, leukemia, septicemia, anemia and chlorosis in young girls and follicular gastritis. Ulcers in children are more often superficial erosions. The typical funnel-shaped, deep ulcer found in adults is rare; when present, it is not so often found in the pyloric region and perforation is common. Perforation has been reported most often through the posterior wall, through the lesser curvature near the cardia and through the greater curvature into the pancreas, as in my own case.

Gastric ulcer should always be thought of in children with abdominal symptoms. Pain in the epigastrium, hematemesis and bloody stools are pathognomonic. Diagnosis must be confirmed by microscopic examination of stomach contents and stools for concealed blood. Appendicitis is most often confused with ulcer. In my case, palpation of the epigastric region during a paroxysm of pain first suggested ulcer. Gas could be felt to gurgle through the pylorus, followed by relaxation and relief of pain. This is believed to be an important diagnostic sign.

Removal of the Appendix in All Cases of Appendicitis with Localized Abscess

Dr. Van Buren Knott, Sioux City, Iowa: I advocate the removal of the appendix at the first operation in every case of appendicitis with localized abscess. I have a series of 501 consecutive operations for appendicitis with localized abscess, in every one of which the appendix was removed at the first operation. In this series there occurred six deaths. There was no death from peritonitis. In my own hands the mortality of operations for appendicitis with localized abscess has by this method been reduced from 8 to 1.2 per cent. In the hands of men who are qualified to operate in acute suppurative conditions within the abdomen, not only will mortality be lessened, but also convalescence will be shortened and the tendency to postoperative sequelae much diminished by the invariable employment of the method.

Sarcoma of Ovary

Dr. Miles F. Porter, Fort Wayne, Ind.: Averaging the percentages of sixteen observers covering over 3,000 cases of ovarian tumor, we find the percentage of sarcoma to all other tumors to be 5.08 per cent. About 20 per cent. of all ovarian tumors are malignant and about 5 per cent. are sarcomas; 50 per cent. of ovarian tumors occurring in patients under 5 years of age are sarcoma. Contrary to the rule, sarcoma of the ovary frequently involves both organs. This double involvement occurs in about 20 per cent. of the cases. Sarcoma is especially likely to occur in the two extremes of life. In my three cases, the youngest patient was 10 and the oldest 62 years of age. The diagnosis is seldom made save at operation or postmortem. Pain is a prominent symptom in more than a third of the cases. Disturbances of menstruation are more common in malignant than in non-malignant tumors. Especially is this true of amenorrhea. The mortality of the operation is much higher in children than in adults. The ultimate prognosis seems the best in fibrosarcoma. A permanent cure can be expected in about 10 per cent. of all cases. Even in desperate cases, the results of the operation are sometimes surprising.

Non-Papillary Benign Tumors of the Bladder

Dr. E. S. Judd, Rochester, Minn.: Out of 164 neoplasms of the bladder operated on in the Mayo clinic, two were of the non-papillary benign type, springing from the muscular layer of the bladder. In a review of the literature, I find thirty similar cases previously reported. In most of the reported cases, bleeding was the first and most marked symptom, coming apparently from the congested mucous membrane of the entire bladder, but especially that covering the tumor. These muscular tumors extend into the bladder and outward into the peritoneal cavity. The point of origin of our two was close to the meatus of the urethra. The tumors were pedunculated and were removed suprapubically. The patients made uneventful recoveries and have been well six and one and three-fourths years, respectively. Pathologically, the tumors were covered by stratified mucous membrane similar to the mucosa of the bladder. Their appearance throughout was that of uterine myomas. They were composed of smooth muscle-fibers and fibrous connective tissue.

Conservative Operative Treatment of Long-Standing Inversion of the Uterus

Dr. H. S. Crossen, St. Louis: Complete division of the anterior uterine wall and cervix (Spinelli, 1900), is the most satisfactory method. The advantages of the method are as follows: Being vaginal it minimizes the amount of peritoneal contamination. As the reposition is accomplished by incision, there is not the bruising and perforation of the friable uterine wall, which has so often accompanied attempted reposition by dilatation of the constriction ring. Division of the anterior uterine wall is preferable to division of the posterior wall, because the work is thus more easily and accurately accomplished. The anterior uterine wall and anterior fornix lie toward the operator, and are therefore less deeply situated and more easily reached. When the operation is anterior, the bladder may be lifted away, giving a wide space for investigation of the inversion-funnel and of the various pelvic structures, and also more room for the operative manipulations of incision, reposition and suturing. If there is a marked backward tendency, effective forward fastening of the uterus may be carried out through the anterior incision. A suture line on the posterior surface of the uterine wall is more likely to form troublesome adhesions—to the intestines, leading to obstruction, or to the posterior pelvic wall, leading to adherent retrodisplacement. The points in favor of the posterior incision are that it eliminates the extra opening for drainage and that the sacro-uterine ligaments may be more conveniently shortened; but these minor advantages of the posterior incision are outweighed by the more important advantages of the anterior incision.

Heat in Cancer

Dr. J. F. Percy, Galesburg, Ill.: It is logical that there may be hope for the eradication of cancerous growths by attacking them through their vulnerability to heat. The penetration of heat by my method can be definitely determined and regulated. Its applicability has almost no limitations when the malignant process is at all accessible. The required apparatus is not expensive and is easily portable. The method consists of the application of heat from an electrocautery accurately controlled by a rheostat, and applied to the affected tissues. Heat and not cauterization is the object to be attained.

NEW YORK NEUROLOGICAL SOCIETY

Stated Meeting held Dec. 2, 1913

The President, Dr. Smith Ely Jelliffe, in the Chair

A Case of Subcortical Visual Aphasia

Dr. C. C. Beling, Newark, N. J.: The patient, a man aged 62, had been a schoolteacher for over forty years. Except for an attack of inflammatory rheumatism twelve years ago, he had always enjoyed good health. There was no venereal history. Feb. 23, 1913, he first noticed some difficulty in reading his morning paper, and on the following morning he could not read at all. When I first saw him, February 28, he complained of a feeling of constriction in the left temporofrontal region, together with a failure of vision and inability to read. The pupils were regular and of equal size, and reacted normally. The fundi showed evidence only of changes due to myopia. Color recognition was very much impaired, and it was almost impossible for the patient to distinguish one color from another. There was a right homonymous hemianopsia.

The patient's vocabulary was much more limited than normal, especially without distinct conscious effort. Pronunciation and speech were fluent; words or syllables were not displaced and the interpretation of nouns and verbs was accurate. He could write spontaneously, but writing meant nothing to him. He read many letters incorrectly. He did not understand written questions or commands that were shown to him, yet their letters and forms were distinct to him, but not their names and sounds. He could repeat the alphabet readily. He was unable to copy from printed to written letters, but he could copy from print to print and with difficulty from writing to writing. He could write from dictation words that he heard and could repeat them correctly. Objects seen he could name only with the greatest difficulty, and by a process of roundabout association. He was unable to estimate distances correctly. There were no visual hallucinations.

The patient had a systolic murmur at the apex, with marked accentuation of the second aortic sound. The blood-pressure was 250 mm.; pulse, 60. The reflexes of the upper extremity were active. The patellar reflexes were exaggerated, especially that on the right side. There were no Babinski, no ankle-clonus, and no rectal or vesical involvement. There were no sensory disturbances to touch, temperature or pain. The examination was otherwise negative. The patient stated that he had a subjective loss of equilibrium. There were no evidences of ataxia. The diagnosis in this case was subcortical visual aphasia (pure word-blindness or alexia), associated with right homonymous hemianopsia and hemiachromatopsia, indicating a subcortical lesion beneath the left angular gyrus, probably hemorrhagic in nature, cutting off the afferent visual impulses from both half vision centers to the visual word center, and to some extent implicating the optic radiation.

DISCUSSION

Dr. L. Casamajor: During the past two years I have seen two cases of alexia, without agraphia. One case was that of a young woman, with absolute alexia and a clear-cut hemianopsia. When I saw her again, about a year later, she had been fairly successful in reeducating herself, which she did by reading until she could understand what she read. In the other case there was a tumor of the calcarine fissure and the patient did not recover his ability to read.

Dr. William B. Noyes: I have often been told by teachers and those who observe schoolchildren, that the number of cases of alexia or freak spellers is rapidly on the increase. There are a certain number of children, apparently bright and well up in their classes in other studies, but hopelessly behind in spelling, and in their whole school life they are retarded because they can never learn to spell correctly. Such children are probably examples of developmental alexia, and are unable to distinguish between the finer points of certain letters. Memory and retention are good, but they often fail in spelling, including sometimes even the simplest words.

Wilson's Disease, Paralysis Agitans or Multiple Sclerosis?

Dr. William C. Herring and **Dr. Smith Ely Jelliffe:** The patient was a man aged 29, a telegrapher, who complained of a tremor with which he was visibly affected. In 1910 he first noticed a tremor of his left hand; this gradually became worse, affecting the function of the hand and arm. Within six months there developed a marked stiffness and apparent weakness of the arm which has grown worse. About this time the right hand and arm became similarly affected, so that in the latter part of 1911 he was unable to continue his work at the telegraph key. The tremor has become more and more violent, and the stiffness more marked and disabling. For the past two years he has also had difficulty in retaining the urine. About two years ago he noticed that the left side of his face was "drawn," and he also thought that his voice had become affected and that he found it more difficult to talk than formerly. The tremor now affected the entire body, including the head. He found it very difficult to do anything for himself, such as dressing and undressing, although he was able to walk and get about. The patient denied syphilis, but admitted four distinct attacks of gonorrhea. As a child he had had measles and diphtheria.

The tremor, coarse and of considerable amplitude, and more or less rhythmic, was not aggravated by the performance of a single act, nor did it have the character of the so-called "intention tremor." On the other hand, the performance of any more complicated maneuver, such as unlacing his shoes or buttoning his clothes, seemed to make it worse. There was no nystagmus, and the eye movements were unaffected and normal, as were the pupillary reflexes. There was a spasticity or hypertonicity of both the upper and lower extremities; the deep reflexes were sluggish and difficult to obtain, but all seemed to be present. The reflexes of the right side seemed to be slightly more active than those of the left, and this was particularly true of the patellar reflexes. No clonus was obtained. In the superficial reflexes there was a considerable difference between the two sides in the abdominal and cremasteric reflexes, that on the left side in both cases being feebler and more sluggish. The plantar reflexes were markedly different from one another, the right one being distinctly flexor and the left as distinctly extensor; both, however, were feeble and of small extent. There did not seem to be any impairment of the gait. There was no ataxia or incoordination of slowly executed movements. There was, however, a marked adiadokokinesis shown, when the patient attempted rapid symmetrical movements with both hands. The eye-grounds were normal, and there were no signs of choked disk or optic atrophy. Vision was 20/20, and there were no scotomas or interlacings of the color-fields.

The serologic examinations of the blood and spinal fluid were negative. The globulin test and leukocyte-count were normal. The pressure of the spinal fluid, however, was very low, namely, 20 mm. of mercury. The spinal fluid showed the presence of a sugar-like substance with Fehling's test. The urine showed the presence of considerable indican but was otherwise negative. There was a marked dermographia rubra, especially marked on the back. There were no gross sensory changes, and stereognosis was intact. The patient complained of occasional paresthesia and numbness of the hands.

DISCUSSION

Dr. B. Sachs: I think that the case presents an abnormal type of paralysis agitans.

Dr. Foster Kennedy: The tremor does not impress me as being similar to that of Wilson's disease. In the facial expression, however, there is a close similarity, but there is apparently lacking the instability in the patient's emotional sphere which is quite characteristic of Wilson's disease. I am inclined to agree with Dr. Sachs that the case represents an abnormal type of paralysis agitans.

Dr. I. Abrahamson: This patient has no indications of a multiple sclerosis, except a diminished abdominal reflex on one side, and a very doubtful Babinski. Pathologically, the lesion can best be placed in the midbrain, and the diagnosis should be somatic, without attempting to give the disease a name. I do not think that the picture corresponds entirely with Wilson's disease; rather, I should class it as a degenerative disease of the midbrain.

DR. WILLIAM M. LESZYNSKY: The symptoms seem to correspond more with paralysis agitans than anything else. I have seen several cases of this disease in youthful patients and recall one in particular, in which, as the man grew older, a typical paralysis agitans developed.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

January, CXLVII, No. 1, pp. 1-156

1 Differentiation of Diseases Included under Chronic Arthritis. L. F. Barker, Baltimore.
2 Some Causes of Disappointment in Operations on Brain Tumor. W. G. Spiller, Philadelphia.
3 *Mechanism of Circulatory Failure in Diphtheria. W. G. MacCallum, New York.
4 *Bleeding in Typhoid. R. D. Rudolf, Toronto.
5 Experimental Hypertrophy of Thyroid and Effect of Excision of Organ on Other of Ductless Glands. W. S. Halsted, Baltimore.
6 *Auricular Fibrillation: Clinical Observations on Pulse Deficit, Digitalis and Blood-Pressure. W. B. James and T. S. Hart, New York.
7 *Minute Changes Produced in Leukemic Tissues by Exposure to Roentgen Rays. A. S. Warthin, Ann Arbor, Mich.
8 *Can It Be Proved from Clinical and Pathologic Records that the Number of Cures of Cancer Will Be Greatly Increased by Proper Excision in Earliest Precancerous or Cancerous Stage of Local Disease? J. C. Bloodgood, Baltimore.
9 *Unusual Type of Acid Intoxication in Infants. I. A. Abt, Chicago.
10 Experience with Neosalvarsan at Harlem Hospital. H. Fox, New York.
11 Metabolism, Prevention and Successful Treatment of Rheumatoid Arthritis. (To be continued). R. Pemberton, Philadelphia.

3. **Circulatory Failure in Diphtheria.**—MacCallum reports twenty-six experiments on dogs which seem to show fairly well that the death which occurs in the height of an attack of diphtheria is not exclusively the result of direct injury to the heart, although that may play some part in the process.

4. **Bleeding in Typhoid.**—In studying the last 1,591 cases of typhoid treated in the Toronto General Hospital it appears that the mortality was 8.67 per cent. over all, but that the death-rate among those reported as having had one or more hemorrhages was 37 per cent. This latter figure is almost the same as occurred in Cruschmann's series at Leipsic, which was 38 per cent., while in Strümpell's forty-five cases of hemorrhage in typhoid it was 42.2 per cent. In the Toronto series, excluding the cases that had bleeding, the mortality of the remaining 1,464 cases was only 6.3 per cent. Rudolf cites twelve cases which show how the bleeding was followed by a more or less marked fall not only in the temperature but also in the pulse rate. They are said to be the best examples, but most of the other 115 charts of cases with bleeding showed more or less of the same thing. The improvement in the temperature and pulse curves, while often transient, in some cases lasted for days and even ushered in convalescence.

Rudolf agrees that it is difficult to explain how the good effects that may follow a hemorrhage come about. There is no doubt, however, but that it produces a profound effect on the whole bodily economy. Thus bleeding has been shown to bring about an increase in the flow of urine, to greatly increase the intake of oxygen, with proportionate raising of tissue-oxidation. It hastens the coagulation time of the blood more than does any other single agent. It produces a rapid increase in the antibodies contained in the blood. The agglutinating power of the blood is enormously raised by the bleeding. Further, in toxic conditions, such as uremia and other less-defined states, states in which there is high blood-pressure, bleeding appears in some way to lessen the toxemia, and possibly in typhoid it may have some similar effect.

Rudolf agrees with Whitehead, who two years ago, suggested that the good effects of hemorrhage in typhoid might be attained and the evil ones (associated with intestinal hemorrhage) avoided by the timely use of venesection in those cases which are not doing well on account of severe infection and toxemia. Venesection, he says, appears to be indicated in severe cases and if the removal of blood by venesection be a moderate one, say of 6 to 14 ounces, it can do no harm and may possibly be productive of great good.

6. **Auricular Fibrillation.**—A note of warning is sounded by James and Hart, namely, that in auricular fibrillation palpation of the radial pulse is a misleading guide to the determination of the condition of the circulation. The pulse deficit is a simple and useful means of following the progress of cases of auricular fibrillation, and of confirming observations on the value of various therapeutic measures, including the activity of various preparations of different drugs. The relative deficit is of value in the diagnosis of suspected cases of fibrillation. The ordinary method of estimating blood-pressure is misleading in cases of auricular fibrillation; it may with advantage be replaced by estimating the average systolic blood-pressure, which gives an approximate measure of the real systolic pressure. The administration of digitalis elevates blood-pressure in cases of auricular fibrillation.

7. **Changes Produced by Roentgen Rays in Leukemic Tissues.**—In no case of leukemia treated by Warthin by Roentgen irradiation were the conditions in the hematopoietic organs changed to a *normal condition.* The effect of the treatment is essentially degenerative and inhibitive, but the essential leukemic process goes on unchecked, although greatly modified. The treatment is, therefore, not curative. In the first stages of the treatment the leukemic tissues show great degeneration and destruction of the white-cell-forming tissues. It may completely disappear from the spleen, and the processes of white-cell formation may be so inhibited that a leukemic condition of the blood may result. After some months there arises a more undifferentiated leukoblastic tissue, particularly in the retroperitoneal hemolymph nodes and in the bone-marrow; the leukemic condition of the blood may return or it may not. With an increasing cachexia the process may be terminated by symptoms of intoxication, or by some secondary event, as hemorrhage from the necrotic spleen.

The changes in the kidney, which may be very marked (cloudy swelling, simple necrosis, and calcification), may also in part be responsible for the fatal termination. Prolonged irradiation of the hematopoietic organs in leukemia causes first a degeneration of the young and maternal cells, leading to a great decrease in the output of leukocytes, particularly in myelemia. To this destructive effect there follows a reaction in which cells of a more resistant type are formed, and the essential leukemic process remains unchecked, although altered in character.

8. **Early Excision of Cancer.**—After a most careful investigation of all the facts available from about 1,300 cases of tumors of the breast, Bloodgood formulates the following conclusions: If every woman over 25 years of age were to seek surgical advice the moment she felt a lump in the breast and the surgeon explored this lump at once, the probabilities are that the lump would prove to be benign in about 33 per cent. of cases; in the malignant cases the chances are that the tumor would be adenocarcinoma in 20 per cent. of the cases, with the probability of a cure of 100 per cent. If the lump represented the most malignant forms of cancer, the chances are 85 per cent. of a cure. Now, with the same good surgery these figures should improve as the number of early cases increases. For undoubtedly many cases of cancer subjected to operative treatment late had been distinctly benign lumps for months or even years.

9. **Acid Intoxication in Infants**—A series of cases of severe types of acid intoxication which usually terminated fatally is cited by Abt They occurred mostly in previously healthy infants at about the weaning period In most instances the infants came from healthy parents In one family two children had died from this affection The third child was similarly attacked, but recovered after a severe illness The illness usually occurs in large, robust, previously healthy infants The disease is ushered in by gastro intestinal symptoms, consisting of more or less diarrhea, and nearly always vomiting The patients are at first restless and show moderate febrile reaction during the first days of the illness, rarely exceeding 101 F Later on the temperature tends to be lower, averaging between 99 and 100 F On the second or third days there is some abdominal distention, dyspnea, with rapid respiration and an increase in pulse rate The respirations are labored, and the accessory muscles of respiration show marked activity

The liver is markedly enlarged, the edges are plump, and the surface firm The urine soon contains albumin, and hyalin and granular casts, without blood, with acetone and diacetic acid In one of Abt's cases leucin and tyrosin were also found The urine contains no sugar About the third day stupor is noted, which gradually deepens into coma The blood shows no pathologic changes, the leukocytes vary between 9,000 and 12,000 and the differential count shows no variation from normal Toward the close of the disease intestinal atony may occur As a result, no feces or gas are passed voluntarily, nor can any intestinal evacuation be induced by mechanical or therapeutic agents

Abdominal distention increases progressively and cyanosis and dyspnea are marked Unconsciousness continues, and occasionally vomiting persists until the end The reflexes are present and normal There are no symptoms of cranial nerve involvement, and usually no pulmonary complications When death takes place it usually occurs in four or five days after the onset The baby which recovered under treatment received considerable proteids in the form of casein, gelatin, soy bean flour, and the animal broths together with carbohydrates Abt assumed that the patient had an intolerance for fat, consequently carbohydrates were given in abundance in the form of cooked starch and levulose

Boston Medical and Surgical Journal

January 15, CLXX, No 3, pp 77 112

12 Study of Cancer (To be continued) S W Little, Rochester, N Y
13 *Measured Feeding for Older Children W R P Emerson, Boston
14 Leprosy J A Honeij, Penikese, Mass
15 *Institutional* Dentistry Methods Results F A Keyes, Boston
16 Mayo Gilliam Operation for Retroversion of Uterus H W Baker, Boston

13 **Measured Feeding for Older Children**—The diet of all improperly nourished children, and occasionally of well nursed children, Emerson maintains, should be checked up and controlled by measured feeding A preliminary forty eight hour list, kept without any suggestions from the physician, shows the quantity and kind of food habitually taken as well as the likes and dislikes of the child Changes in diet should be made gradually along lines of least resistance

The average gain on diet alone of children who are under weight should be from one half to two pounds per week If no gain is made, organic disturbances or toxic absorption should be suspected Serious errors in diet cannot be detected by asking the child about his appetite or the mother about the diet given Food must be recorded and measured in order to show how much is taken Almost invariably the overweight child is overweight because he eats too much, and the underweight child is underweight because he eats too little

Measured feeding is an important therapeutic test Emerson gives a long list of foods showing the calories in each represented by proteid, fat and carbohydrate

Bulletin of Johns Hopkins Hospital, Baltimore

January, XXV, No 275, pp 1 32

17 History of Medicine as Subject of Teaching and Research A C Klebs Lausanne Switzerland
18 John Hunter His Life and Labors C W G Rohrer, Baltimore

Canadian Medical Association Journal, Toronto

January, IV, No 1, pp 1 84

19 *Medical Treatment of Cholelithiasis H B Anderson Toronto
20 Syphilitic Infections of Central Nervous System C E Riggs, St Paul Minn
21 Gastric Hyperacidity F W Rolph Toronto
22 *Periosteum W E Gallie and D E Robertson, Toronto

19 **Treatment of Cholelithiasis**—While surgical procedure is frequently the best, and often the only means offering a chance of relief, Anderson states that its advocacy, based on certainty of cure and assurance of non recurrence, is not borne out by results The main object of treatment is the relief of the infection and inflammatory changes, and not merely the removal of the gall stones So long as there is no recurrence of the inflammatory attacks, there will be no attacks of gall stones Recovery not infrequently occurs under non operative treatment, especially in early and mild cases, *and particularly after first attacks*, before serious local damage has been produced by the infection Anderson insists that medical treatment should be given a fair trial in all cases in which the patient's physical condition does not warrant operation, and with the numerous patients who refuse operation In many such cases he has *seen complete* and permanent recovery from all symptoms of the disease

Medical treatment, Anderson claims, is indicated in many cases as a preliminary to operation, and in order to allow the acute infection to subside as far as possible It is indicated in all cases after operation to allow of complete subsidence of the infection and, if possible, to prevent reinfection and recurrence He suggests that we adopt the suggestion *of Naunyn and give up the term cholelithiasis and classify* these various infections of the biliary passages as cholangitis with qualifying terms such as simple, catarrhal, suppurative gangrenous, calculous, etc, according to the condition present in the particular case The non operative treatment advised by Anderson, is the Karlsbad cure or some home modification of this treatment This consists chiefly in the copious use of hot Carlsbad water or Carlsbad salts dissolved in hot water The waters *of Vichy, Ems and Neunahr have a* similar action In addition rectal injections of hot water are sometimes used The diet should be plain and unirritating, and the intervals between meals should not be too long The administration of bile salts and salicylates for their chologogic effect, and of hexamethylenamin as a biliary antiseptic, is considered to be of value

22 **The Periosteum**—The results of a general study of the *regeneration of the bone are detailed by Gallie and Robert*son Their findings agree with those of Macewen They conclude that his view that the periosteum is merely a fibrous membrane without osteogenetic function, is probably the correct one Osteogenesis appears to be solely a property of the endosteum, and appears to be as energetic in the absence as in the presence of the periosteum Even as a source of blood supply the periosteum does not seem to be of great importance, for *large areas of bone may be denuded without* any apparent effect on it There has been considerable discussion of late as to whether bone grafts should be trans*ferred with the periosteum in situ or not Gallie and Robert*son have done many experiments with small grafts, always completely denuding the bone before making the transfer, and in no case has there been any difficulty in getting the grafts to take

Georgia Medical Association Journal, Augusta

January, III, No 9, pp 287 322

23 Some Gynecologic Disorders Dependent on General Rather than Local Causes J R B Branch Macon
24 Immediate Repair of Lacerations of Perineum—Report of Cases J L Campbell Atlanta
25 Puerperal Infection—Its Cause and Treatment J D Chason, *Bainbridge*
26 Uterine Prolapse H R Donaldson Atlanta
27 Physician and His Gonorrheal Patient S Gibson Thomson
28 Case of Cancer of Body of Uterus of Two Years Duration, *Complicated with Typhoid* G F Horne, Augusta
29 Tonsils and Adenoids C Thompson, Millen

Illinois Medical Journal, Chicago

January, XXV, No. 1, pp. 1-60

30 Examination of Eyes in General Paralysis of Insane in Series of Fifty Cases. C. B. Welton, Peoria.
31 Treatment of Fractures—Past and Present. J. L. Wiggins, East St. Louis.
32 *Relation of and Lesions Produced by Various Forms of Streptococci with Special Reference to Arthritis. E. C. Rosenow, Chicago.
33 *Clinical Aspect and Medical Management of Arthritis Deformans. F. Billings, Chicago.
34 *Etiology of Biliary Tract Infections and Their Relations to Duodenal Ulcer and Appendicitis. C. L. Mix, Chicago.
35 *Surgery of Acute Metastatic Infective Lesions of Joints. J. B. Murphy, Chicago.
36 Ectopic Pregnancy. A. J. Butner, Harrisburg.
37 Membranous Pericolitis. H. C. Mitchell, Carbondale.
38 Medical Ideals and County Society. R. Sleyster, Waupun, Wis.

32, 33, 34 and 35. Abstracted in THE JOURNAL, Nov. 29, pp. 2007, 2008, 2009 and 2010.

Journal of Biological Chemistry, Baltimore

January, XVI, No. 4, pp. 439-587

39 Effect of Ferments and Other Substances on Growth of Burley Tobacco. J. DuP. Oosthuizen and O. M. Shedd, Lexington, Ky.
40 *Theory of Diabetes. II. Glycid and Acetole in Normal and Phlorhizinized Animal. J. R. Greer, E. J. Witzemann and R. T. Woodyatt, Chicago.
41 *Iodin Content of Thyroid and of Some Branchial Cleft Organs. A. T. Cameron, Winnipeg, Can.
42 General Method for Conversion of Fatty Acids into Their Lower Homologues. P. A. Levene and C. J. West, New York.
43 Autolysis of Mold Cultures. II. Influence of Exhaustion of Medium on Rate of Autolysis of Aspergillus Niger. A. W. Dox.
44 Carbon Dioxid Apparatus III. Special Apparatus for Estimation of Very Minute Quantities of Carbon Dioxid. S. Tashiro, Chicago.
45 Rate of Absorption of Cholesterol from Digestive Tract of Rabbits. E. P. Lehman, Freiburg.
46 Glyoxalase. H. D. Dakin and H. W. Dudley, New York.
47 *Negative Experiments on Influence of Pancreas on Acetoacetic Acid Formation in Liver. H. D. Dakin and H. W. Dudley, New York.
48 *Fat Absorption. III. Changes in Fat during Absorption. W. R. Bloor, St. Louis.
49 Hexone Bases of Casein. D. D. Van Slyke, New York.
50 Nature of Free Amino Groups in Proteins. D. D. Van Slyke and F. J. Birchard, New York.
51 Sphingosine. P. A. Levene and C. J. West, New York.
52 Action of Leukocytes and Kidney Tissue on Amino-Acids. P. A. Levene and G. M. Meyer, New York.
53 "Sucre Virtuel" and Blood Glycolysis. R. Lepine, Lyons.
54 *Chemistry of Glyconeogenesis. A. I. Ringer and E. M. Frankel, Philadelphia.

40. **Glycid and Acetole in Organism.**—Glycid and acetole were the substances studied by the authors in this series of experiments. They were prepared in pure form and administered to healthy animals and to fully phlorhizinized dogs. It was found that glycid is toxic. Doses of 0.3 to 0.4 gm. per kilo of body weight cause narcosis, accompanied at times by muscular twitching which is opened in the body with difficulty. Acetole is relative non-toxic. Doses of 2 gm. per kilo of body weight do not kill, but even moderate doses cause hematuria and hemoglobinuria. When given to phlorhizinized dogs either subcutaneously or by mouth, acetole causes no output of extra sugar. Some unchanged acetole may appear in the urine and so raise its total reducing power. There is an apparent rise also of the acetone bodies. The behavior of acetole in the body is explained on the basis that it disassociates into acetaldehyd and hydroxymethylene. Acetole is not a normal intermediate between substances of the formula $C_6H_{12}O_6$ and those of the formula $C_3H_6O_2$.

41. **Iodin Content of Thyroid.**—Iodin was found by Cameron to be present in the thyroids of the pigeon, alligator and frog, in amounts corresponding with the diets of these animals. It is also present in the thyroid of the dogfish. He believes that further support is therefore given to the theory that it is an invariable constituent of thyroid tissue. Iodin is absent from the ventral branchial body of the frog. The amount of iodin present in the parathyroids of the dog is of a less order of magnitude than that in the corresponding thyroids, if, indeed, the actual quantity observed be not wholly attributable to thyroid contamination. Cameron's results indicate a differentiation of function between the thyroid and parathyroid.

47. **Pancreas and Acetoacetic Acid Formation.**—Addition of pancreas extract to the blood was found by Dakin and Dudley to have no marked effect on acetoacetic acid formation in the liver from butyric acid, homogentisic acid or tyrosine.

48. **Changes in Fat during Absorption.**—Evidence is presented by Bloor of changes in fat during absorption as follows: A lowering of the melting point of high-melting point fats by the addition of an unsaturated fatty acid, probably oleic acid. The addition is proportional to the melting point of the fatty acid fed. An elevation of the melting point and lowering of iodin number of a low melting point fat (olive oil) by the addition of saturated fatty acids. Addition of "oleic acid" together with a change of melting point in a fat which consists mainly of glycerids of saturated fatty acids (cocoanut oil). Lowering of the iodin number of a fat (cod liver oil) which contains a large percentage of glycerids of highly unsaturated fatty acids. The intestine appears to have the power to modify radically the composition of the fats during absorption. The changes are apparently purposive in that they vary in kind and degree with the nature of the fat fed and also show in general a tendency toward the production of a uniform chyle fat, presumably the characteristic body fat of the animal. The observations suggest to Bloor that the mechanism serves to permit adaptive changes in the fats during absorption.

54. **Chemistry of Gluconeogenesis.**—The outcome of their experiments lead Ringer and Frankel to conclusions diametrically opposed to those of Friedman, who found that acetaldehyd on perfusion through the surviving liver gives rise to aceto-acetic acid. On giving acetaldehyd subcutaneously, however, the authors found that it has just the opposite effect.

Journal-Lancet, Minneapolis

January 1, XXXIV, No. 1, pp. 1-30

55 Studies in Endocarditis and Rheumatism. E. C. Rosenow, Chicago.
56 Importance of Orthopedic Treatment in Tuberculous Joints. A. J. Gillette, St. Paul, Minn.
57 Movements of Stomach. G. H. Caldwell, Grand Forks, N. D.
58 Physician and Public-Health Work. F. M. Smersh, Owatonna, Minn.

Lancet-Clinic, Cincinnati

January 3, CX, No. 1, pp. 1-26

59 Technic and Results of Anoci-Association. H. G. Sloan, Cleveland.
60 Eugenics and Some Phases of Housing Problem. C. A. L. Reed, Cincinnati.
61 Medical Treatment of Goiter. J. H. Johnson, Coffeyville, Kan.

January 10, CXI, No. 2, pp. 27-54

62 Anent So-Called White-Slave Law. J. T. Windell, Louisville, Ky.
63 Social Factors in Prevention of Insanity. F. P. Norbury, Springfield, Ill.
64 Medical Profession and Race Betterment. J. D. Trawick, Louisville, Ky.
65 Study of Chronic Ethmoiditis. J. A. Thompson and C. H. Weintz, Cincinnati.

Medical Record, New York

January 10, LXXXV, No. 2, pp. 47-92

66 Operative Treatment of Paralytic Talipes, Calcaneus and Allied Distortions. R. Whitman, New York.
67 *Extirpation of Bacillus Diphtheria by Means of Thallophytic Fungus, Achlya Muscaris. L. L. Ten Broeck, Minneapolis.
68 Four Cases of Corneoscleral Dermoid Tumors. J. Santos-Fernandez, Havana, Cuba.
69 Modified Method of Lavage. I. O. Palefski, New York.
70 Case Illustrating "Factor of Safety" in Lung Tissue and Pulse Pressure as Prognostic Sign. G. H. Sexsmith and M. I. Marshak, Bayonne, N. J.
71 European Study Tour. R. Kovacs, New York.
72 Physical Condition of Retarded Schoolchildren. S. J. Baker, New York.
73 Persistent Hiccough. F. H. Mead, San Diego, Cal.

January 17, LXXXV, No. 3, pp. 93-138

74 *Diagnosis and Treatment of Lumbosacral Pelvic Pain. F. P. Henry, Philadelphia.
75 Disorders in Children by Imitation and Induction. A. Strauch, Chicago.
76 Alcohol and Racial Degeneracy. L. M. Maus, U. S. Army.
77 Therapeutic Value of Crotalin in Treatment of Epilepsy. T. J. Mays, Philadelphia.
78 Extraction of Immature Cataract by Homer C. Smith Method. H. F. Hansell, Philadelphia.
79 Case against Eugenists. J. E. Sheehan, Orange, N. J.
80 *Venesection in Cerebral Hemorrhage, with Report of Cases. A. MacFarlane, Albany, N. Y.
81 Specific Action of Ethyl Hydrocuprein on Pneumococcus Infection of External Tissues of Eye. A. Wiener, New York.

67. **Extirpation of Bacillus Diphtheria.**—His experiments have convinced Ten Broeck that *Achlya muscaris* possesses the power of destroying *B. diphtheriae* in culture and in the throat. Throat inoculations of this fungus are usually self-limited and may require some adjustment in the way of repeated inoculations or inoculation in special areas or under special conditions to embrace all complications in the nose. It has the power of inhibiting the growth of a number of throat pathogens and seems to influence favorably membranous anginas of various origin. Its clinical use seems to be attended with no danger but after treatment with mild antiseptics is recommended to remove the fungus. It is applicable in all stages of the disease and seems to give speediest results in the early cases. There are grounds for believing that a throat in which this fungus is growing is soon shorn of its danger of contagion even if the diphtheria bacilli are still harbored. It is admirably adapted to the clinical requirements for reliable and ready use.

74. **Lumbosacral Pelvic Pain.**—The question whether lumbago is a manifestation of gout or articular rheumatism, Henry states, has little bearing on therapeutics for, in most cases, the salicyl compounds and their congeners, as well as colchicum, are not of much avail. Nevertheless, the salicyl compounds should be given a trial especially at the beginning of the attack, and they will sometimes abort it. Henry has seen excellent results from a single large dose of quinin, meaning thereby from 10 to 20 grains, administered at the onset of the affection. Fagge taught that lumbago is generally due to a hyperacid state of the urine and there are many who still hold this opinion. The indication, from this therapeutic point of view, is to make the urine alkaline as rapidly as possible with sodium or potassium bicarbonate or potassium citrate which seems to be the favorite drug for this purpose employed by the English practitioners. Henry prefers half-dram or dram doses of Rochelle salts. They may be administered every hour or two until the urine is alkaline and the bowels freely moved. The attempt to "walk it off," at its commencement, may succeed if the exercise is accompanied with free perspiration, but, in Henry's experience, those who suffer from lumbago do not perspire readily. A Turkish bath in the early stage is safer and more effective than exercise. When the affection is established, rest is imperative. Then, also, local treatment consisting of dry cups, deep massage, and the faradic current should be instituted, and if the salicyl compounds and their numerous succedanea have failed, successful resort may be had to iodin. This drug Henry has found most efficient in its combination with a vegetable protein.

80. **Venesection in Cerebral Hemorrhage.**—MacFarlane believes it is a fact beyond dispute that any patient suddenly becoming unconscious or presenting symptoms of cerebral insult with a blood-pressure of more than 200 mm. should be bled immediately. In the unusually stout person there may be some difficulty in finding easily a vein at the bend of the elbow, but in these patients there are usually in the legs varicose veins which stand out imploring to be relieved. He reports four cases. In three cases 12 ounces of blood were withdrawn; in the fourth case 3 pints were removed.

Military Surgeon, Washington, D. C.

January, XXXIV, No. 1, pp. 1-97

82 Flat-Feet—Etiologic Relation of Posture and Gait Thereto. J. R. Harris, U. S. Army.
83 Military Importance of Deviations of Nasal Septum. T. C. Lyster, U. S. Army.
84 Necessity for Uniform Organization for Medical Corps of National Guard. H. L. Gilchrist, U. S. Army.
85 How Annual Tours of Duty of Sanitary Troops of Militia May Be Improved On. H. H. Doan, U. S. Army.
86 Medical Ethnology. C. E. Woodruff, U. S. Army.

Missouri State Medical Association, St. Louis

December, X, No. 6, pp. 191-228

87 Classification of Chronic Resistant Macular and Maculopapular Scaly Erythrodermias. R. L. Sutton, Kansas City.
88 *Phthalein Test for Renal Function with Relation to Operative Procedures. J. R. Caulk and T. M. Davis, St. Louis.
89 *Primary Carcinoma of Appendix; Report of Two Cases. L. Rassieur, St. Louis.
90 Relation of Refraction to Practice of Medicine. T. A. Coffelt, Springfield.
91 Advisability of Prematrimonial Medical Examination from Standpoint of Church. W. V. Berg, Philadelphia.
92 Two-Headed Fetus. R. E. Donnell, De Soto.
93 Missouri Embryologic Collection. F. P. Johnson, Columbia.
94 Case of Diaphragmatic Hernia. H. P. Kuhn, Kansas City.

88. **Phthalein Renal Test.**—In ten cases of renal calculus studied by Caulk and Davis, this test has shown a slight delay in the time of appearance and also a slight diminution in the amount of total excretion from the calculous kidney as compared with the normal. The diminution, however, has in no case been marked, except in two cases of calculus pyonephrosis, in which instances the diseased kidney showed practically on excretion of the dye and the normal kidney put out an amount equal to that of the combined output of normal cases, showing compensatory hypertrophy of the normal kidney. They have studied fourteen cases of renal tuberculosis. The test has demonstrated greater reduction of output in cases of unilateral tuberculosis than in stone cases.

In several cases in which the urinalysis showed the quality of the urine to be practically the same from the two sides, as far as specific and urea gravity were concerned, the test showed *a marked depression on the diseased side.* In cases of double renal tuberculosis there has been quite a diminution in the amount of the dye excreted, and in none of the cases did it exceed 35 per cent. from the two sides for two hours.

In six cases of pyonephrosis, three were back of ureter strictures, two back of ureteral calculus and one a double pyonephrosis, evidently of hematogenous origin. In the cases of unilateral pyonephrosis, the pyonephrotic kidneys showed either no excretion at all or a marked diminution, with one exception, an old woman, 69 years of age, with a small stone in the lower ureter. Both sides showed about the same output, both being reduced. In the cases of unilateral disease the normal kidneys excreted an increased amount of the dye, and in no case was there any uremia following operation. In eleven cases of pyelitis there has been practically a normal time of appearance and of total excretion, and in cases of double pyelitis the two sides excreted practically the same amount of dye. Three cases of hypernephroma with metastases showed a normal time of appearance, normal amount of excretion, the two sides being equal. Two cases of floating kidney showed normal outputs. In 16 cases, in which a severe renal lesion had been previously diagnosed from the urinalysis and clinical examination, the test was below 45 per cent. in all, and below 20 per cent. in 11 of them, while the time of appearance of the dye in the urine was from eight to thirty-five minutes; the blood-pressure was high in every case. The test was made on patients who were uremic; in 3 of these the time of appearance was over one hour, and the two-hour output from 8 to 14 per cent., while in the fourth case the color did not appear for two and one-half hours. All 4 patients died within five days. Eight of the cases having kidney lesions along with other more or less important lesions, have gone to autopsy and the test has agreed perfectly with the findings, while in 3 of them the clinical examination had not revealed any kidney lesion of importance until the test was made.

89. **Primary Carcinoma of Appendix.**—Rassieur's first case he found while operating for retroversion of the uterus; the second case while making an interim operation for recurrent appendicitis. In the first instance he found a tumor on the end of the appendix ½ inch long. He removed the appendix and found that the lumen did not extend to the tip of the appendix on account of the presence of the tumor. The appendix was forwarded to the laboratory with the provisional diagnosis, inflammatory tumor of the appendix. Microscopic examination proved that the latter was a carcinoma involving all the tunics to the serosa. The adjacent Lieberkuhn glands showed a mucous enteritis. There was no other inflammatory reaction. The tumor was a yellow color on cut section. Now two years and two months have elapsed and the patient presents no signs of recurrence. When removing the appendix, Rassieur removed no more mesentery than is done in any interval case. In the second case, the appendix

was coiled cochlea-like. There were many adhesions of the meso-appendix. There was no lymphatic involvement. The tip of the appendix was tense, distended, hard and presented a bean-like enlargement ⅝ inch in diameter. The appendix was removed. On incising the appendix the small tumor looked yellow. From that Rassieur made the diagnosis of primary carcinoma. The microscopic examination showed an alveolar carcinoma with a well-developed stroma involving all the tunics to the serosa. One-half year has elapsed since the operation; the patient is very healthy and shows no signs of recurrence.

New Jersey Medical Society Journal, Orange

January, XI, No. 1, pp. 1-54

95 Diagnosis of Frequency of Urination in Men, and Treatment. A. R. Stevens, New York.
96 Simple Fractures of Upper Extremity. F. O. Allen, Philadelphia.
97 Multiple Neuritis, with Special Reference to Alcoholic Variety *with Korsakow's Syndrome. E. B. Funkhouser, Trenton.*
98 Diagnostic Exactitude in Pregnancy. E. A. Ayers, Branchville.
99 Medical Ethics. I. Sunamer, Paterson.
100 When Should Syphilis Be Considered Cured? O. Lowy, Newark.

New Orleans Medical and Surgical Journal

January, LXVI, No. 7, pp. 503-580

101 Obesity and Its Treatment. A. E. Fossier, New Orleans.
102 Diagnosis of Gonorrheal Infections by Fixation of Complement. J. A. Lanford, New Orleans.
103 Flat-Feet and What They Lead To. P. A. McIlhenny, New Orleans.
104 Arterial Transplantation, with Technic Employed. S. L. Christian and E. L. Sanderson, Shreveport, La.
105 Vicious Circle Following Short No-Loop Operation Relieved by Secondary Jejunojejunostomy with Murphy Button. J. Smyth, New Orleans.
106 Tetany. M. S. Picard, New Orleans.
107 Trypanosoma Americanum. F. M. Johns, New Orleans.
108 Miscegenation: Old Social Problem Revived. H. D. King, New Orleans.
109 Echinococcus Infection with Rupture of Diaphragm; Operation and Recovery. P. B. Salatich, New Orleans.
110 *Type of Infection in Dr. Salatich's Case.* H. W. Wade, New Orleans.

New York Medical Journal

January 10, XCIX, No. 2, pp. 49-100

111 Anoci-Association. G. W. Crile, Cleveland.
112 *Important Factors Which Influence Immediate and End Results of Surgical Operations.* W. E. Lower, Cleveland.
113 Antiseptics versus Germicides. R. T. Morris, New York.
114 Hunger Pain and Its Significance. J. J. Gilbride, Philadelphia.
115 Intestinal Kinks; Diagnosis and Treatment. I. S. Haynes, New York.
116 Effect of Intraperitoneal Injections of Ozone in Animals Following Injections with Virulent Bacteria. S. E. Finch, New York.
117 Wesley's System of Medicine. W. R. Riddell, Toronto.
118 Case of Acute Lymphocyte Leukemia. J. Ballagi, Homestead, Pa.

January 17, XCIX, No. 3, pp. 101-152

119 Hypertonicity and Hypotonicity of Vagus and Sympathetic Nervous System. J. C. Hemmeter, Baltimore.
120 *Cerebrospinal Fluid and Special Method of Treatment of Essential Epilepsy. A. Gordon, Philadelphia.
121 Results of Tonsil Operations on Public Schoolchildren in New York City. G. H. Cocks, New York.
122 Treatment of Wounds and Infections. A. E. Hoag, New York.
123 Functional Leukorrhea. W. Allen and T. H. Wright, Charlotte, N. C.
124 Intestinal Kinks; Diagnosis and Treatment. I. S. Haynes, New York.
125 *Periodic Explosive Toxemias. B. B. Crohn, New York.*
126 New Urethrotome. W. W. Bredin, Denver.
127 Institutional Treatment of Drug Addiction. C. J. Douglas, Boston.
128 Standardization of Brains. R. Alexander-Bowers, Michigan City, Ind.

120. **Cerebrospinal Fluid and Epilepsy.**—Tests made by Gordon showed that the cerebrospinal fluid of epilepsy patients contains poisonous elements which were antagonistic to each other's blood, but not to their own. Otherwise speaking, each cerebrospinal fluid contained substances which acted specifically on another epileptic but not on the donor. Starting from this principle he selected, at first, two grave cases of epilepsy in which the ordinary treatment was of no avail. He withdrew from each 30 c.c. of cerebrospinal fluid and immediately injected subcutaneously 3 c.c. into each other's arm. Headache followed at the end of each withdrawal of fluid, but it disappeared in twenty-four and forty-eight hours. The patients were watched closely; the bromids were continued as usual. During the following three days, until the second injection, no attack occurred. During the following two weeks the patients had four injections and not a single attack occurred. On the third week, the supply of the cerebrospinal fluid became exhausted. The patients began to show recurrences. The seizures, however, were comparably milder than the original ones, and different in character. They were of the nature of petit mal. The histories of the cases detailed show that even the early results were striking. The subsequent course of the disease, the intervals between the recurrences, the nature of the latter, the freedom from attacks for weeks, the improvement in the mentality and the general health of the patient, and, finally, the discontinuance of bromids, Gordon believes, tend to show that the results from this new method of treatment are very promising.

Encouraged by the first two cases he applied the same treatment to two other cases. The last one, in a little girl, presented certain features that left no doubt of the efficacy of the method. In her case no lumbar puncture was performed so that withdrawal of fluid could not be considered as the cause of her remarkable improvement. Gordon is positive that the improvement in all probability was due to the subcutaneous injections of the cerebrospinal fluid. The four patients treated with subcutaneous injections of cerebrospinal fluid, taken for each from another epileptic, were benefited considerably. The direct effect of this procedure in Gordon's opinion was, and is unmistakable, for the reason that prior to this treatment for months and years the patients received uninterruptedly large doses of bromids and other drugs, and there was, comparatively speaking, very little or no relief. The improvement after the administration of the cerebrospinal fluid was strikingly noticeable not only with reference to the severity of the individual attacks, but also to their frequency. The intervals between the seizures were remarkably long considering their occurrence before the new treatment was instituted. Moreover, in some of the cases the nature of the attacks changed: petit mal took the place of grand mal. The mental hebetude following the epileptic seizures became here exceedingly slight. The treatment, in short, proved to be highly beneficial. No final claim is made as to the curability of epilepsy by this method.

Oklahoma State Medical Association Journal, Muskogee

January, VI, No. 8, pp. 321-368

129 Experience with Holmes' Nasopharyngoscope. D. D. McHenry, Oklahoma City.
130 Jequirity in Ophthalmic Practice. C. J. Lukens, Enid.
131 Characteristic Differential Points of More Common Forms of Insanity. W. W. Rucks, Guthrie.
132 Morbid Mentality from Psychologic Viewpoint. F. B. Erwin, Wellston.
133 Law and the Insane. M. O. Robertson, Durant.
134 *Report of Committee on Tuberculins and Tuberculosis Anti-Serums, Muskogee County Medical Society. B. H. Brown, P. B. Nesbitt, *Muskogee and A. B. Montgomery, Checotah.*

134. **Tuberculins and Tuberculosis Anti-Serums.**—Reviewed under Miscellany in this issue.

Ophthalmic Record, Chicago

January, XXIII, No. 1, pp. 1-54

135 Case of Late Infection after Elliot's Trephining. H. Gifford, Omaha, Neb.
136 Trephining. R. Denig, New York.
137 Sclero-Corneal Trephining in Glaucoma. L. C. Peter, Philadelphia.
138 Case of Cataracta Traumatica Electrica. C. Ide, Los Angeles, Cal.
139 Complete Paralysis of Oculomotor Nerve, Following Injury. E. Cobb, Marshalltown, Ia.

West Virginia Medical Journal, Wheeling

January, VIII, No. 7, pp. 179-214

140 Cerebral Arteriosclerosis. C. W. Halterman, Clarksburg.
141 Pellagra. A. Mairs, Charleston.
142 Diphtheria. W. H. McLain, Wheeling.
143 Necessity for Greater Care in Diagnosis and Treatment of Rheumatism. M. McNellan, Parkersburg.
144 Hereditary Alcoholism an Undeniable Fact. J. W. Williams, Richmond, Va.
145 Sub-Mucous Resection of Nasal Septum. V. T. Churchman, Charleston.

67. **Extirpation of Bacillus Diphtheria.**—His experiments have convinced Ten Broeck that *Achlya muscaris* possesses the power of destroying *B. diphtheriae* in culture and in the throat. Throat inoculations of this fungus are usually self-limited and may require some adjustment in the way of repeated inoculations or inoculation in special areas or under special conditions to embrace all complications in the nose. It has the power of inhibiting the growth of a number of throat pathogens and seems to influence favorably membranous anginas of various origin. Its clinical use seems to be attended with no danger but after treatment with mild antiseptics is recommended to remove the fungus. It is applicable in all stages of the disease and seems to give speediest results in the early cases. There are grounds for believing that a throat in which this fungus is growing is soon shorn of its danger of contagion even if the diphtheria bacilli are still harbored. It is admirably adapted to the clinical requirements for reliable and ready use.

74. **Lumbosacral Pelvic Pain.**—The question whether lumbago is a manifestation of gout or articular rheumatism, Henry states, has little bearing on therapeutics for, in most cases, the salicyl compounds and their congeners, as well as colchicum, are not of much avail. Nevertheless, the salicyl compounds should be given a trial especially at the beginning of the attack, and they will sometimes abort it. Henry has seen excellent results from a single large dose of quinin, meaning thereby from 10 to 20 grains, administered at the onset of the affection. Fagge taught that lumbago is generally due to a hyperacid state of the urine and there are many who still hold this opinion. The indication, from this therapeutic point of view, is to make the urine alkaline as rapidly as possible with sodium or potassium bicarbonate or potassium citrate which seems to be the favorite drug for this purpose employed by the English practitioners. Henry prefers half-dram or *dram doses of Rochelle salts. They may be* administered every hour or two until the urine is alkaline and the bowels freely moved. The attempt to "walk it off," at its commencement, may succeed if the exercise is accompanied with free perspiration, but, in Henry's experience, those who suffer from lumbago do not perspire readily. A Turkish bath in the early stage is safer and more effective than exercise. When the affection is established, rest is imperative. Then, also, local treatment consisting of dry cups, deep massage, and the faradic current should be instituted, and if the salicyl compounds and their numerous succedanea have failed, successful resort may be had to iodin. This drug Henry has found most efficient in its combination with a vegetable protein.

80. **Venesection in Cerebral Hemorrhage.** — MacFarlane believes it is a fact beyond dispute that any patient suddenly becoming unconscious or presenting symptoms of cerebral insult with a blood-pressure of more than 200 mm. should be bled immediately. In the unusually stout person there may be some difficulty in finding easily a vein at the bend of the elbow, but in these patients there are usually in the legs varicose veins which stand out imploring to be relieved. He reports four cases. In three cases 12 ounces of blood were withdrawn; in the fourth case 3 pints were removed.

Military Surgeon, Washington, D. C.

January, XXXIV, No. 1, pp. 1-97

82 Flat-Feet—Etiologic Relation of Posture and Gait Thereto. J. R. Harris, U. S. Army.
83 Military Importance of Deviations of Nasal Septum. T. C. Lyster, U. S. Army.
84 Necessity for Uniform Organization for Medical Corps of National Guard. H. L. Gilchrist, U. S. Army.
85 How Annual Tours of Duty of Sanitary Troops of Militia May Be Improved On. H. H. Doan, U. S. Army.
86 Medical Ethnology. C. E. Woodruff, U. S. Army.

Missouri State Medical Association, St. Louis

December, X, No. 6, pp. 191-228

87 Classification of Chronic Resistant Macular and Maculopapular Scaly Erythrodermias. R. L. Sutton, Kansas City.
88 *Phthalein Test for Renal Function with Relation to Operative Procedures. J. R. Caulk and T. M. Davis, St. Louis.
89 *Primary Carcinoma of Appendix; Report of Two Cases. L. Rassieur, St. Louis.
90 Relation of Refraction to Practice of Medicine. T. A. Coffelt, Springfield.
91 Advisability of Prematrimonial Medical Examination from Standpoint of Church. W. V. Berg, Philadelphia.
92 Two-Headed Fetus. R. E. Donnell, De Soto.
93 Missouri Embryologic Collection. F. P. Johnson, Columbia.
94 Case of Diaphragmatic Hernia. H. P. Kuhn, Kansas City.

88. **Phthalein Renal Test.**—In ten cases of renal calculus studied by Caulk and Davis, this test has shown a slight delay in the time of appearance and also a slight diminution *in the amount of total excretion from the calculous kidney* as compared with the normal. The diminution, however, has in no case been marked, except in two cases of calculus pyonephrosis, in which instances the diseased kidney showed practically on excretion of the dye and the normal kidney put out an amount equal to that of the combined output of normal cases, showing compensatory hypertrophy of the normal kidney. They have studied fourteen cases of renal tuberculosis. The test has demonstrated greater reduction of output in cases of unilateral tuberculosis than in stone cases.

In several cases in which the urinalysis showed the quality of the urine to be practically the same from the two sides, as far as specific and urea gravity were concerned, the test showed a marked depression on the diseased side. In cases of double renal tuberculosis there has been quite a diminution in the amount of the dye excreted, and in none of the cases did it exceed 35 per cent. from the two sides for two hours.

In six cases of pyonephrosis, three were back of ureter strictures, two back of ureteral calculus and one a double pyonephrosis, evidently of hematogenous origin. In the cases of unilateral pyonephrosis, the pyonephrotic kidneys showed either no excretion at all or a marked diminution, with one exception, an old woman, 69 years of age, with a small stone in the lower ureter. Both sides showed about the same output, both being reduced. In the cases of unilateral disease the normal kidneys excreted an increased amount of the *dye, and in no case was there any uremia following opera*tion. In eleven cases of pyelitis there has been practically a normal time of appearance and of total excretion, and in cases of double pyelitis the two sides excreted practically the same amount of dye. Three cases of hypernephroma with metastases showed a normal time of appearance, normal amount of excretion, the two sides being equal. Two cases of floating kidney showed normal outputs. In 16 cases, in which a severe renal lesion had been previously diagnosed from the urinalysis and clinical examination, the test was below 45 per cent. in all, and below 20 per cent. in 11 of them, while the time of appearance of the dye in the urine was from eight to thirty-five minutes; the blood-pressure was high in every case. The test was made on patients who were uremic; in 3 of these the time of appearance was over one hour, and the two-hour output from 8 to 14 per cent., while in the fourth case the color did not appear for two and one-half hours. All 4 patients died within five days. Eight of the cases having kidney lesions along with other more or less important lesions, have gone to autopsy and the test has agreed perfectly with the findings, while in 3 of them the clinical examination had not revealed any kidney lesion of importance until the test was made.

89. **Primary Carcinoma of Appendix.**—Rassieur's first case he found while operating for retroversion of the uterus; the second case while making an interim operation for recurrent appendicitis. *In the first instance he found a tumor on the* end of the appendix ½ inch long. He removed the appendix and found that the lumen did not extend to the tip of the appendix on account of the presence of the tumor. The appendix was forwarded to the laboratory with the provisional diagnosis, inflammatory tumor of the appendix. Microscopic examination proved that the latter was a carcinoma involving all the tunics to the serosa. The adjacent Lieberkuhn glands showed a mucous enteritis. There was no other inflammatory reaction. The tumor was a yellow color on cut section. Now two years and two months have elapsed and the patient presents no signs of recurrence. When removing the appendix, Rassieur removed no more mesentery than is done in any interval case. In the second case, the appendix

was coiled cochlea-like. There were many adhesions of the meso-appendix. There was no lymphatic involvement. The tip of the appendix was tense, distended, hard and presented a bean-like enlargement ⅜ inch in diameter. The appendix was removed. On incising the appendix the small tumor looked yellow. From that Rassieur made the diagnosis of primary carcinoma. The microscopic examination showed an alveolar carcinoma with a well-developed stroma involving all the tunics to the serosa. One-half year has elapsed since the operation; the patient is very healthy and shows no signs of recurrence.

New Jersey Medical Society Journal, Orange

January, XI, No. 1, pp. 1-54

95 Diagnosis of Frequency of Urination in Men, and Treatment. A. R. Stevens. New York.
96 Simple Fractures of Upper Extremity. F. O. Allen, Philadelphia.
97 Multiple Neuritis, with Special Reference to Alcoholic Variety with Korsakow's Syndrome. E. B. Funkhouser, Trenton.
98 Diagnostic Exactitude in Pregnancy. E. A. Ayers, Branchville.
99 Medical Ethics. I. Sunamer, Paterson.
100 When Should Syphilis Be Considered Cured? O. Lowy, Newark.

New Orleans Medical and Surgical Journal

January, LXVI, No. 7, pp. 503-580

101 Obesity and Its Treatment. A. E. Fossier, New Orleans.
102 Diagnosis of Gonorrheal Infections by Fixation of Complement. J. A. Lanford, New Orleans.
103 Flat-Feet and What They Lead To. P. A. McIlhenny, New Orleans.
104 Arterial Transplantation, with Technic Employed. S. L. Christian and E. L. Sanderson, Shreveport, La.
105 Vicious Circle Following Short No-Loop Operation Relieved by Secondary Jejunojejunostomy with Murphy Button. J. Smyth, New Orleans.
106 Tetany. M. S. Picard, New Orleans.
107 Trypanosoma Americanum. F. M. Johns, New Orleans.
108 Miscegenation: Old Social Problem Revived. H. D. King, New Orleans.
109 Echinococcus Infection with Rupture of Diaphragm; Operation and Recovery. P. B. Salatich, New Orleans.
110 Type of Infection in Dr. Salatich's Case. H. W. Wade, New Orleans.

New York Medical Journal

January 10, XCIX, No. 2, pp. 49-100

111 Anoci-Association. G. W. Crile, Cleveland.
112 Important Factors Which Influence Immediate and End Results of Surgical Operations. W. E. Lower, Cleveland.
113 Antiseptics versus Germicides. R. T. Morris, New York.
114 Hunger Pain and Its Significance. J. J. Gilbride, Philadelphia.
115 Intestinal Kinks; Diagnosis and Treatment. I. S. Haynes, New York.
116 Effect of Intraperitoneal Injections of Ozone in Animals Following Injections with Virulent Bacteria. S. E. Finch, New York.
117 Wesley's System of Medicine. W. R. Riddell, Toronto.
118 Case of Acute Lymphocyte Leukemia. J. Ballagi, Homestead, Pa.

January 17, XCIX, No. 3, pp. 101-152

119 Hypertonicity and Hypotonicity of Vagus and Sympathetic Nervous System. J. C. Hemmeter, Baltimore.
120 *Cerebrospinal Fluid and Special Method of Treatment of Essential Epilepsy. A. Gordon, Philadelphia.
121 Results of Tonsil Operations on Public Schoolchildren in New York City. G. H. Cocks, New York.
122 Treatment of Wounds and Infections. A. E. Hoag, New York.
123 Functional Leukorrhea. W. Allen and T. H. Wright, Charlotte, N. C.
124 Intestinal Kinks; Diagnosis and Treatment. I. S. Haynes, New York.
125 Periodic Explosive Toxemias. B. B. Crohn, New York.
126 New Urethrotome. W. W. Bredin, Denver.
127 Institutional Treatment of Drug Addiction. C. J. Douglas, Boston.
128 Standardization of Brains. R. Alexander-Bowers, Michigan City, Ind.

120. **Cerebrospinal Fluid and Epilepsy.**—Tests made by Gordon showed that the cerebrospinal fluid of epilepsy patients contains poisonous elements which were antagonistic to each other's blood, but not to their own. Otherwise speaking, each cerebrospinal fluid contained substances which acted specifically on another epileptic but not on the donor. Starting from this principle he selected, at first, two grave cases of epilepsy in which the ordinary treatment was of no avail. He withdrew from each 30 c.c. of cerebrospinal fluid and immediately injected subcutaneously 3 c.c. into each other's arm. Headache followed at the end of each withdrawal of fluid, but it disappeared in twenty-four and forty-eight hours. The patients were watched closely; the bromids were continued as usual. During the following three days, until the second injection, no attack occurred. During the following two weeks the patients had four injections and not a single attack occurred. On the third week, the supply of the cerebrospinal fluid became exhausted. The patients began to show recurrences. The seizures, however, were comparably milder than the original ones, and different in character. They were of the nature of petit mal. The histories of the cases detailed show that even the early results were striking. The subsequent course of the disease, the intervals between the recurrences, the nature of the latter, the freedom from attacks for weeks, the improvement in the mentality and the general health of the patient, and, finally, the discontinuance of bromids, Gordon believes, tend to show that the results from this new method of treatment are very promising.

Encouraged by the first two cases he applied the same treatment to two other cases. The last one, in a little girl, presented certain features that left no doubt of the efficacy of the method. In her case no lumbar puncture was performed so that withdrawal of fluid could not be considered as the cause of her remarkable improvement. Gordon is positive that the improvement in all probability was due to the subcutaneous injections of the cerebrospinal fluid. The four patients treated with subcutaneous injections of cerebrospinal fluid, taken for each from another epileptic, were benefited considerably. The direct effect of this procedure in Gordon's opinion was, and is unmistakable, for the reason that prior to this treatment for months and years the patients received uninterruptedly large doses of bromids and other drugs, and there was, comparatively speaking, very little or no relief. The improvement after the administration of the cerebrospinal fluid was strikingly noticeable not only with reference to the severity of the individual attacks, but also to their frequency. The intervals between the seizures were remarkably long considering their occurrence before the new treatment was instituted. Moreover, in some of the cases the nature of the attacks changed: petit mal took the place of grand mal. The mental hebetude following the epileptic seizures became here exceedingly slight. The treatment, in short, proved to be highly beneficial. No final claim is made as to the curability of epilepsy by this method.

Oklahoma State Medical Association Journal, Muskogee

January, VI, No. 8, pp. 321-368

129 Experience with Holmes' Nasopharyngoscope. D. D. McHenry, Oklahoma City.
130 Jequirity in Ophthalmic Practice. C. J. Lukens, Enid.
131 Characteristic Differential Points of More Common Forms of Insanity. W. W. Rucks, Guthrie.
132 Morbid Mentality from Psychologic Viewpoint. F. B. Erwin, Wellston.
133 Law and the Insane. M. O. Robertson, Durant.
134 *Report of Committee on Tuberculins and Tuberculosis Anti-Serums, Muskogee County Medical Society. B. H. Brown, P. B. Nesbitt, Muskogee and A. B. Montgomery, Checotah.

134. **Tuberculins and Tuberculosis Anti-Serums.**—Reviewed under Miscellany in this issue.

Ophthalmic Record, Chicago

January, XXIII, No. 1, pp. 1-54

135 Case of Late Infection after Elliot's Trephining. H. Gifford, Omaha, Neb.
136 Trephining. R. Denig, New York.
137 Sclero-Corneal Trephining in Glaucoma. L. C. Peter, Philadelphia.
138 Case of Cataracta Traumatica Electrica. C. Ide, Los Angeles, Cal.
139 Complete Paralysis of Oculomotor Nerve, Following Injury. E. Cobb, Marshalltown, Ia.

West Virginia Medical Journal, Wheeling

January, VIII, No. 7, pp. 179-214

140 Cerebral Arteriosclerosis. C. W. Halterman, Clarksburg.
141 Pellagra. A. Mairs, Charleston.
142 Diphtheria. W. H. McLain, Wheeling.
143 Necessity for Greater Care in Diagnosis and Treatment of Rheumatism. M. McNellan, Parkersburg.
144 Hereditary Alcoholism an Undeniable Fact. J. W. Williams, Richmond, Va.
145 Sub-Mucous Resection of Nasal Septum. V. T. Churchman, Charleston.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

January 3, I, No. 2766, pp. 1-68

1 *Radium and Cancer. A. P. Gould.
2 *Triple Syndrome in Abdominal Emergencies. R. Morison.
3 The Medical Clinic. W. Osler.
4 Teaching of Clinical Medicine. J. Mackenzie.
5 Family with Cerebellar Ataxia. C. A. Sprawson.
6 Case of Woody Phlegmon of Neck (Phlegmon Ligneux). G. Parker.

1. **Radium and Cancer.**—Drawing conclusions from his own experience, Gould believes he is warranted in saying that in radium we have an agent that in many cases can be used in the treatment of cancer with great hope of success, and that the selective action on cancer cells marks it out from all other known remedies for this disease; but this same experience also shows that it would be a gross exaggeration to speak glibly of radium as the "cure for cancer" in the sense that it will deal with any and every case of this disease. Such is not the case, as it is used at present; but Gould states, remembering that on the one hand the nature of cancer is unknown and most variable in its manifestations, and on the other hand that radium is almost the youngest of the known chemical elements, and has been studied but for a few years, and by relatively few investigators—there is good ground for hope that in the time, which will surely come, when the secret of the nature of cancer is discovered and more is known of the properties of radium, and how to use them better and to control them, we shall have a great extension of the therapeutic value of radium in cancer.

An important feature of the address is the statement of the possible dangers of the radium treatment of cancer. The dangers to which the patients are exposed are sloughing, which may be simply burning of the skin or may manifest itself by necrosis of intestinal wall with formation of fecal fistula; thrombosis in veins close to the site of treatment, hemorrhage, constitutional disturbance, hyperpyrexia, 106 F. after employment of a very large dose; and, lastly, very late, six months or a year after exposure, manifestation of destructive action on normal tissues with the occurrence of fibrotic and hyaline degeneration.

Secondary malignant disease in the liver, pancreas or vertebrae is beyond its reach; so also is primary disease of the stomach, intestine or bladder. In these latter radium can be applied, but its beneficial action may be obtained only at the expense of formation of fistula. If extensive metastasis has occurred, radium is of no use; but if, for example, in epithelioma of the mouth glandular involvement has occurred, the local disease can be treated with radium, the glands dissected out as cleanly as possible, and the operation area irradiated before closing the wound. Again, in inoperable cancer of the intestine radium may be applied so as to reduce the size of the malignant mass, and some palliative operation—short-circuiting, or occlusion—may be performed. Gould thinks that there is a wide field for radium in sarcoma of the long bones, especially the femur, where surgery can suggest only a serious mutilating operation. But where surgery has gained marked success, as in early cancer of the breast, the treatment should still be surgical, though radium workers ask that they should get cases in the early stages, as radium is most likely then to be of benefit.

2. **Triple Syndrome in Abdominal Emergencies.**—Morison emphasizes the fact that the fate of a patient, the victim of an abdominal emergency, depends almost entirely on the skill and promptitude of his doctor, and that any special surgical skill has very little to do with his recovery. It is rare for these emergency operations to require other than ordinary surgical care and skill. Diagnostic skill is the most important factor in recovery.

In all abdominal emergencies there should be three phases or stages, which are as follows: (1) The stage of shock. (2) The stage of reaction. (3) The stage peculiar to each lesion; for example, peritonitis for perforation, acute anemia for hemorrhage, an enlarged gall-bladder or jaundice, for gall-stone, etc. In all of the dangerous lesions pain is severe enough in the first stage to produce symptoms of shock, varying from a feeling that something serious has happened, accompanied by pallor, sweating and feebleness, to such a bad sensation and symptoms as to threaten and, rarely, to cause death. This is the period to which Morison draws special attention because it is of the greatest importance. If looked at fair and square it is difficult to miss the meaning of the symptoms, but there may be only a single chance, the first look, the first visit. Half an hour, even a few minutes later, and, chiefly independent of the sort of lesion, the second phase—that of reaction—has set in, and in a short time the patient may be apparently so well that it is now almost impossible to believe that any dangerous condition is present. This is the time when mistakes are made. The early alarm is too readily forgotten both by patient and doctor and deceptive signs of recovery may mislead both for hours or days. In this, the second, phase the most important evidences are tenderness and rigidity of the abdominal muscles on palpation, and shifting dulness on percussion.

Morison believes that the time has come to make a rule that all cases of abdominal injury and of acute abdominal pain should be sent to a hospital without delay for observation and that the public must be taught that the requirements of present-day surgery cannot be met by extemporized arrangements even in the most perfect houses and that the mortality of serious operations, done at home, is at least four times as great as it is in the suitable environment of a hospital. He cites a number of typical examples.

Indian Journal of Medical Research, Calcutta

October, I, No. 2, pp. 213-383

7 Protection of India from Yellow Fever. S. P. James.
8 *Bactericidal Action of Organic Silver Salts and Other Antiseptics on Dysentery Bacillus. L. Rogers.
9 Cultivation of Comma Bacillus from Lung in Case of Cholera. E. D. W. Greig.
10 Precipitation of Bacterial Protein by Concentrated Salt Solution and Its Relation to Bacteriologic Diagnosis of Cholera. E. D. W. Greig.
11 Working of Cholera Prevention Scheme on Lower Ganges Bridge Construction. T. H. Bishop.
12 Preparation of Antivenomous Serum for Echis Carinata or Phoorsa and Toxicity and Hemolysing Power of Venom. W. D. H. Stevenson.
13 New Method of Obtaining Viperine Antiserum. H. W. Acton and R. Knowles.
14 Culicoides Kiefferi, N. Sp.: New Indian Blood-Sucking Midge. W. S. Patton.
15 Probable Ratio of Relapses and Fresh Infections to Total Attacks of Malarial Fever, and Quinin Dosage. A. C. MacGilchrist.
16 *Plea for More Extended Use of Quinin Alkaloid. A. C. MacGilchrist.
17 Nastin Treatment of Leprosy. L. B. Scott.
18 Practicability of Stegomyia Reduction in Indian Seaports. S. P. James.

8. **Bactericidal Action of Organic Silver Salts.**—The results obtained by Rogers are detailed as follows: Silver nitrate.—The most striking point is the remarkable difference in the bactericidal power of silver nitrate against the dysentery bacillus when dissolved in water and diluted broth respectively. In the former it killed the organism in five minutes in dilutions up to 1 in 10,000, the weakest solution tested. On the other hand, with the addition of a little organic matter and salts in the added broth, in one experiment it failed in a strength of 1 in 100 and in another in one of 1 in 500, showing great weakening and irregularity in its effects. The frequent failure of silver nitrate injections in dysentery is thus easily understood.

Organic silver compounds.—With the exception of argyrol, all those tested had a considerable bactericidal action against the dysentery bacillus when dissolved in water, being effective in five minutes in dilutions of 1 in 2,500 and upward. In the presence of a little broth, however, their action was always weaker, but in a variable degree. In the last column of the tables is entered whether any precipitate occurred in the tubes to which broth was added, and it was found that as a general rule those substances which produced such a precipitate acted most feebly in the presence of organic matter and salts, while those in which no change was produced acted best.

Albargin, or silver gelatose, gave the best results in the presence of broth, as it killed the dysentery bacillus within five minutes in a dilution of 1 in 500, or about 1 grain to an ounce, while protargol gave a similar result in one experiment, although it was less efficient in a second trial Mercurol, or mercury nucleate, yielded a similar result, but it did not appear to Rogers advisable to inject a mercury compound into the bowel in the subjects of chronic dysentery Argentamin (silver phosphate dissolved in ethylenediamin solution) was only active in a 1 in 250 solution in weak broth and is not so active or so convenient a preparation as the foregoing

The remaining three silver preparations, collargol, ichthargan and argyrol, had little or no action in the presence of broth on the dysentery bacillus Both potassium and calcium permanganate were effective up to a 1 in 2,500 solution in water, but completely failed in the presence of broth, being precipitated and rendered inert by the organic matter present Boracic acid and quinin bisulphate (which has been so much used as a bowel wash in amebic dysentery) have little or no bactericidal action on the dysentery bacillus even in distilled water

16 **Quinin Alkaloid**—MacGilchrist claims that precipitated quinin base is the best all round form in which to administer quinin by mouth, it can be administered intravenously, and it is preferable to any quinin salt in cases in which hemoglobinuria is dreaded

Journal of Obstetrics and Gynecology of British Empire, London

November, XXIV, No 5, pp 249 286

19 Serodiagnosis of Pregnancy R L M Wallis
20 *New Form of Pelvigraph D Dougal
21 Pelvimetry D Dougal
22 *Description of Ductless Glands from Case of Acute Thyroid Enlargement of Pregnancy C White

20 **New Form of Pelvigraph**—The principle of the instrument devised by Dougal is described as follows by him Two rigid metal arms are connected together by a pair of cross bars in such a way as to allow free movemeent in the vertical plane, both arms remaining parallel throughout and moving synchronously with one another A pivot joint is fitted to one of the cross bars, and connects this portion of the instrument to a metal stand provided with a weighted foot piece and having a vertical draughting board attached to it To the extremity of one arm is fixed a pencil, and this, traveling over the draughting board, records the position at any moment of the other arm which is passed into the vagina and placed on any part of the anterior or posterior pelvic walls An exact reproduction of the contour of the pelvic cavity in the median plane can thus be obtained and the various diameters accurately estimated

22 **Acute Thyroid Enlargement.**—White examined the thyroid, thymus, kidneys, suprarenals, ovaries and pituitary gland of a woman who was naturally delivered of a male child weighing 6 pounds 2 ounces without any special difficulty, the child was quite normal The following day severe bronchitis was present with marked dyspnea and inspiratory recession of the intercostal spaces Neck measurement was given as 16 inches The dyspnea and cyanosis increased and death occurred the next day An autopsy made twenty hours later showed acute bronchitis to have been present There was no laryngeal or tracheal stenosis

The thyroid showed regular enlargement and appeared to be solid except for one cyst 3 cm in diameter on its posterior aspect There were no hemorrhages into its substance The thymus formed a long tongue shaped mass, measuring 11 by 2 by 1 cm The ovaries were normal in size and appearance, corpora lutea were present Adrenals The left measured 6 by 4 by 1 cm and weighed 9 3 grams It was enlarged by a central adenoma The right was normal in size and appearance and weighed 5 5 grams The pituitary measured 15 by 8 by 6 mm

Numerous sections were cut from different portions of the glands The alveoli varied greatly in size, in places resembling the so called colloid goiter They were mostly lined by a single layer of small cubical epithelial cells whose nuclei stained deeply The appearance was suggestive of the rapid formation of new colloid alveoli Nowhere was there intra-alveolar cell proliferation such as is seen in exophthalmic goiter. No increased fibrosis was demonstrable The colloid was clear and rarely granular, it stained yellow with van Giesen's stain Round celled infiltration and other signs of acute inflammation were absent The thymus was normal Kidney the glomeruli were normal The cells of the tubules were swollen, no excess of fibrous tissue present Ovary both old and recent corpora lutea were present No increased fibrosis Adrenal sections showed little deviation from the normal Pituitary the anterior lobe contained big eosinophil (pregnancy) cells in large numbers, arranged in groups surrounding a central cavity as a rule and most frequently found in the anterior part of this lobe The basophil cells were few in number Large cells whose protoplasm stained very feebly with any stain were frequently seen (exhausted secreting cells, or post mortem change) The colloid was three or four times more abundant than normal The pons nervosa had been invaded by the large eosinophil cells from the anterior lobe

Lancet, London

January 8, I, No 4714, pp 1 86

23 Prophylactic Inoculation against Pneumococcus Infections (To be concluded) A E Wright
24 Some Late Manifestations of Inherited Syphilis J H Sequeira
25 *Glycosuria in Affections of Liver Hepatic Diabetes M Labre and A Bouchage
26 Case of Diabetes Insipidus W P Herringham
27 *Operation for Fixation of Movable Kidney P Paterson
28 Unusual Sequel (Biliary Fistula and Jaundice) to Cholecystectomy A P Gould
29 *Tuberculous Rheumatism N Raw
30 Bullet Wound of Spine Case of Medicolegal Interest. W H Battle
31 Nasopharyngeal and Cervical Glandular Tuberculosis in Children A D Fordyce and E W S Carmichael
32 Modern Treatment of Lacrymal Obstruction D L Davies

25 **Glycosuria in Liver Affections**—Hepatic diabetes, Labbe and Bouchage find supervenes, as a rule, in heavy eaters It is preceded often by obesity, sometimes by gout or renal lithiasis It is a milk diabetes without any nitrogenous waste, corresponding to the classical type of the *diabète gras* or *arthritique* It is accompanied by the usual manifestations of alteration of the liver hypertrophy of the organ, subicteric complexion, and the presence in the urine of excess of biliary pigments, of brownish red pigment, of urobilin, ammonia, and the amino acids The nitrogen index is low Again, the patients may sometimes have hemorrhages and disturbances due to blood coagulation

The cause of this hepatic diabetes majority may be a general infection that attacks the liver, an intoxication such as by alcohol, which has an affinity for the liver cells More often, according to the authors' observations, it is due to overfeeding, especially on meat The glyco regulator disturbance, as a rule benign, may be cured if the anatomic and functional integrity of the liver can be restored While avoiding excess of carbohydrates, it is important to reduce the quantity of meat ingested, the chief cause of the trouble

27 **Operation for Fixation of Movable Kidney.**—An oblique incision is made by Paterson below and parallel with the last rib, the muscles being carefully divided so as not to injure the last dorsal nerve When the kidney is reached the perinephric fat is removed, so that the organ when in position lies in contact with the muscles The renal capsule is next split from end to end along the convex border, and then stripped for about half its extent from the anterior and posterior surfaces of the kidney The upper three fourths of these two flaps of capsule are now folded back over the part of the capsule which has been left adherent, and are retained in that position by a few stitches passing from the free edge of the flaps to the adherent capsule near the hilus, care being taken not to injure the pelvis These stitches prevent the flaps from slipping back over the denuded renal surface Three fixation stitches of strong catgut are next passed from within outward, about half an inch from the edge, then over the edge and once more through the flap from within outward By this means the part of the capsule in the grip of the stitch is twisted and puckered, and the tendency for the stitch to cut out is diminished These stitches are not tied

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

January 3, I, No. 2766, pp. 1-68

1 *Radium and Cancer. A. P. Gould.
2 *Triple Syndrome in Abdominal Emergencies. R. Morison.
3 The Medical Clinic W. Osler.
4 Teaching of Clinical Medicine. J. Mackenzie.
5 Family with Cerebellar Ataxia. C. A. Sprawson.
6 Case of Woody Phlegmon of Neck (Phlegmon Ligneux). G. Parker.

1. **Radium and Cancer.**—Drawing conclusions from his own experience, Gould believes he is warranted in saying that in radium we have an agent that in many cases can be used in the treatment of cancer with great hope of success, and that the selective action on cancer cells marks it out from all other known remedies for this disease; but this same experience also shows that it would be a gross exaggeration to speak glibly of radium as the "cure for cancer" in the sense that it will deal with any and every case of this disease. Such is not the case, as it is used at present; but Gould states, remembering that on the one hand the nature of cancer is unknown and most variable in its manifestations, and on the other hand that radium is almost the youngest of the known chemical elements, and has been studied but for a few years, and by relatively few investigators—there is good ground for hope that in the time, which will surely come, when the secret of the nature of cancer is discovered and more is known of the properties of radium, and how to use them better and to control them, we shall have a great extension of the therapeutic value of radium in cancer.

An important feature of the address is the statement of the possible dangers of the radium treatment of cancer. The dangers to which the patients are exposed are sloughing, which may be simply burning of the skin or may manifest itself by necrosis of intestinal wall with formation of fecal fistula; thrombosis in veins close to the site of treatment, hemorrhage, constitutional disturbance, hyperpyrexia, 106 F. after employment of a very large dose; and, lastly, very late, six months or a year after exposure, manifestation of destructive action on normal tissues with the occurrence of fibrotic and hyaline degeneration.

Secondary malignant disease in the liver, pancreas or vertebrae is beyond its reach; so also is primary disease of the stomach, intestine or bladder. In these latter radium can be applied, but its beneficial action may be obtained only at the expense of formation of fistula. If extensive metastasis has occurred, radium is of no use; but if, for example, in epithelioma of the mouth glandular involvement has occurred, the local disease can be treated with radium, the glands dissected out as cleanly as possible, and the operation area irradiated before closing the wound. Again, in inoperable cancer of the intestine radium may be applied so as to reduce the size of the malignant mass, and some palliative operation—short-circuiting, or occlusion—may be performed. Gould thinks that there is a wide field for radium in sarcoma of the long bones, especially the femur, where surgery can suggest only a serious mutilating operation. But where surgery has gained marked success, as in early cancer of the breast, the treatment should still be surgical, though radium workers ask that they should get cases in the early stages, as radium is most likely then to be of benefit.

2. **Triple Syndrome in Abdominal Emergencies.**—Morison emphasizes the fact that the fate of a patient, the victim of an abdominal emergency, depends almost entirely on the skill and promptitude of his doctor, and that any special surgical skill has very little to do with his recovery. It is rare for these emergency operations to require other than ordinary surgical care and skill. Diagnostic skill is the most important factor in recovery.

In all abdominal emergencies there should be three phases or stages, which are as follows: (1) The stage of shock. (2) The stage of reaction. (3) The stage peculiar to each lesion; for example, peritonitis for perforation, acute anemia for hemorrhage, an enlarged gall-bladder or jaundice, for gall-stone, etc. In all of the dangerous lesions pain is severe enough in the first stage to produce symptoms of shock, varying from a feeling that something serious has happened, accompanied by pallor, sweating and feebleness, to such a bad sensation and symptoms as to threaten and, rarely, to cause death. This is the period to which Morison draws special attention because it is of the greatest importance. If looked at fair and square it is difficult to miss the meaning of the symptoms, but there may be only a single chance, the first look, the first visit. Half an hour, even a few minutes later, and, chiefly independent of the sort of lesion, the second phase—that of reaction—has set in, and in a short time the patient may be apparently so well that it is now almost impossible to believe that any dangerous condition is present. This is the time when mistakes are made. The early alarm is too readily forgotten both by patient and doctor and deceptive signs of recovery may mislead both for hours or days. In this, the second, phase the most important evidences are tenderness and rigidity of the abdominal muscles on palpation, and shifting dulness on percussion.

Morison believes that the time has come to make a rule that all cases of abdominal injury and of acute abdominal pain should be sent to a hospital without delay for observation and that the public must be taught that the requirements of present-day surgery cannot be met by extemporized arrangements even in the most perfect houses and that the mortality of serious operations, done at home, is at least four times as great as it is in the suitable environment of a hospital. He cites a number of typical examples.

Indian Journal of Medical Research, Calcutta

October, I, No. 2, pp. 213-383

7 Protection of India from Yellow Fever. S. P. James.
8 *Bactericidal Action of Organic Silver Salts and Other Antiseptics on Dysentery Bacillus. L. Rogers.
9 Cultivation of Comma Bacillus from Lung in Case of Cholera. E. D. W. Greig.
10 Precipitation of Bacterial Protein by Concentrated Salt Solution and Its Relation to Bacteriologic Diagnosis of Cholera. E. D. W. Greig.
11 Working of Cholera Prevention Scheme on Lower Ganges Bridge Construction. T. H. Bishop.
12 Preparation of Antivenomous Serum for Echis Carinata or Phoorsa and Toxicity and Hemolysing Power of Venom. W. D. H. Stevenson.
13 New Method of Obtaining Viperine Antiserum. H. W. Acton and R. Knowles.
14 Culicoides Kiefferi, N. Sp.: New Indian Blood-Sucking Midge. W. S. Patton.
15 Probable Ratio of Relapses and Fresh Infections to Total Attacks of Malarial Fever, and Quinin Dosage. A. C. MacGilchrist.
16 *Plea for More Extended Use of Quinin Alkaloid. A. C. MacGilchrist.
17 Nastin Treatment of Leprosy. L. B. Scott.
18 Practicability of Stegomyia Reduction in Indian Seaports. S. P. James.

8. **Bactericidal Action of Organic Silver Salts.**—The results obtained by Rogers are detailed as follows: Silver nitrate.—The most striking point is the remarkable difference in the bactericidal power of silver nitrate against the dysentery bacillus when dissolved in water and diluted broth respectively. In the former it killed the organism in five minutes in dilutions up to 1 in 10,000, the weakest solution tested. On the other hand, with the addition of a little organic matter and salts in the added broth, in one experiment it failed in a strength of 1 in 100 and in another in one of 1 in 500, showing great weakening and irregularity in its effects. The frequent failure of silver nitrate injections in dysentery is thus easily understood.

Organic silver compounds.—With the exception of argyrol, all those tested had a considerable bactericidal action against the dysentery bacillus when dissolved in water, being effective in five minutes in dilutions of 1 in 2,500 and upward. In the presence of a little broth, however, their action was always weaker, but in a variable degree. In the last column of the tables is entered whether any precipitate occurred in the tubes to which broth was added, and it was found that as a general rule those substances which produced such a precipitate acted most feebly in the presence of organic matter and salts, while those in which no change was produced acted best.

Albargin, or silver gelatose, gave the best results in the presence of broth, as it killed the dysentery bacillus within five minutes in a dilution of 1 in 500, or about 1 grain to an ounce, while protargol gave a similar result in one experiment, although it was less efficient in a second trial. Mercurol, or mercury nucleate, yielded a similar result, but it did not appear to Rogers advisable to inject a mercury compound into the bowel in the subjects of chronic dysentery. Argentamin (silver phosphate dissolved in ethylenediamin solution) was only active in a 1 in 250 solution in weak broth and is not so active or so convenient a preparation as the foregoing.

The remaining three silver preparations, collargol, ichthargan and argyrol, had little or no action in the presence of broth on the dysentery bacillus. Both potassium and calcium permanganate were effective up to a 1 in 2,500 solution in water, but completely failed in the presence of broth, being precipitated and rendered inert by the organic matter present. Boracic acid and quinin-bisulphate (which has been so much used as a bowel wash in amebic dysentery) have little or no bactericidal action on the dysentery bacillus even in distilled water.

16. **Quinin Alkaloid.**—MacGilchrist claims that precipitated quinin base is the best all-round form in which to administer quinin by mouth; it can be administered intravenously, and it is preferable to any quinin salt in cases in which hemoglobinuria is dreaded.

Journal of Obstetrics and Gynecology of British Empire, London

November, XXIV, No. 5, pp. 249-286

19 Serodiagnosis of Pregnancy. R. L. M. Wallis.
20 *New Form of Pelvigraph. D. Dougal.
21 Pelvimetry. D. Dougal.
22 *Description of Ductless Glands from Case of Acute Thyroid Enlargement of Pregnancy. C. White.

20. **New Form of Pelvigraph.**—The principle of the instrument devised by Dougal is described as follows by him: Two rigid metal arms are connected together by a pair of cross-bars in such a way as to allow free movemeent in the vertical plane, both arms remaining parallel throughout and moving synchronously with one another. A pivot-joint is fitted to one of the cross-bars, and connects this portion of the instrument to a metal stand provided with a weighted foot-piece and having a vertical draughting-board attached to it. To the extremity of one arm is fixed a pencil, and this, traveling over the draughting-board, records the position at any moment of the other arm which is passed into the vagina and placed on any part of the anterior or posterior pelvic walls. An exact reproduction of the contour of the pelvic cavity in the median plane can thus be obtained and the various diameters accurately estimated.

22. **Acute Thyroid Enlargement.**—White examined the thyroid, thymus, kidneys, suprarenals, ovaries and pituitary gland of a woman who was naturally delivered of a male child, weighing 6 pounds 2 ounces without any special difficulty; the child was quite normal. The following day severe bronchitis was present with marked dyspnea and inspiratory recession of the intercostal spaces. Neck measurement was given as 16 inches. The dyspnea and cyanosis increased and death occurred the next day. An autopsy made twenty hours later showed acute bronchitis to have been present. There was no laryngeal or tracheal stenosis.

The thyroid showed regular enlargement and appeared to be solid except for one cyst 3 cm. in diameter on its posterior aspect. There were no hemorrhages into its substance. The thymus formed a long tongue-shaped mass, measuring 11 by 2 by 1 cm. The ovaries were normal in size and appearance; corpora lutea were present. Adrenals: The left measured 6 by 4 by 1 cm. and weighed 9.3 grams. It was enlarged by a central adenoma. The right was normal in size and appearance and weighed 5.5 grams. The pituitary measured 15 by 8 by 6 mm.

Numerous sections were cut from different portions of the glands. The alveoli varied greatly in size, in places resembling the so-called colloid goiter. They were mostly lined by a single layer of small cubical epithelial cells whose nuclei stained deeply. The appearance was suggestive of the rapid formation of new colloid alveoli. Nowhere was there intra-alveolar cell-proliferation such as is seen in exophthalmic goiter. No increased fibrosis was demonstrable. The colloid was clear and rarely granular; it stained yellow with van Giesen's stain. Round-celled infiltration and other signs of acute inflammation were absent. The thymus was normal. Kidney: the glomeruli were normal. The cells of the tubules were swollen; no excess of fibrous tissue present. Ovary: both old and recent corpora lutea were present. No increased fibrosis. Adrenal: sections showed little deviation from the normal. Pituitary: the anterior lobe contained big eosinophil (pregnancy) cells in large numbers, arranged in groups surrounding a central cavity as a rule and most frequently found in the anterior part of this lobe. The basophil cells were few in number. Large cells whose protoplasm stained very feebly with any stain were frequently seen (exhausted secreting cells, or post mortem change). The colloid was three or four times more abundant than normal. The pons nervosa had been invaded by the large eosinophil cells from the anterior lobe.

Lancet, London

January 3, I, No. 4714, pp. 1-86

23 Prophylactic Inoculation against Pneumococcus Infections. (To be concluded.) A. E. Wright.
24 Some Late Manifestations of Inherited Syphilis. J. H. Sequeira.
25 *Glycosuria in Affections of Liver: Hepatic Diabetes. M. Labre and A. Bouchage.
26 Case of Diabetes Insipidus. W. P. Herringham.
27 *Operation for Fixation of Movable Kidney. P. Paterson.
28 Unusual Sequel (Biliary Fistula and Jaundice) to Cholecystectomy. A. P. Gould.
29 *Tuberculous Rheumatism. N. Raw.
30 Bullet Wound of Spine: Case of Medicolegal Interest. W. H. Battle.
31 Nasopharyngeal and Cervical Glandular Tuberculosis in Children. A. D. Fordyce and E. W. S. Carmichael.
32 Modern Treatment of Lacrymal Obstruction. D. L. Davies.

25. **Glycosuria in Liver Affections.**—Hepatic diabetes, Labbe and Bouchage find supervenes, as a rule, in heavy eaters. It is preceded often by obesity, sometimes by gout or renal lithiasis. It is a milk diabetes without any nitrogenous waste, corresponding to the classical type of the *diabète gras* or *arthritique*. It is accompanied by the usual manifestations of alteration of the liver: hypertrophy of the organ, subicteric complexion, and the presence in the urine of excess of biliary pigments, of brownish-red pigment, of urobilin, ammonia, and the amino-acids. The nitrogen index is low. Again, the patients may sometimes have hemorrhages and disturbances due to blood-coagulation.

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27. **Operation for Fixation of Movable Kidney.**—An oblique incision is made by Paterson below and parallel with the last rib, the muscles being carefully divided so as not to injure the last dorsal nerve. When the kidney is reached the perinephric fat is removed, so that the organ when in position lies in contact with the muscles. The renal capsule is next split from end to end along the convex border, and then stripped for about half its extent from the anterior and posterior surfaces of the kidney. The upper three-fourths of these two flaps of capsule are now folded back over the part of the capsule which has been left adherent, and are retained in that position by a few stitches passing from the free edge of the flaps to the adherent capsule near the hilus, care being taken not to injure the pelvis. These stitches prevent the flaps from slipping back over the denuded renal surface. Three fixation stitches of strong catgut are next passed from within outward, about half an inch from the edge, then over the edge and once more through the flap from within outward. By this means the part of the capsule in the grip of the stitch is twisted and puckered, and the tendency for the stitch to cut out is diminished. These stitches are not tied

in the meantime. The kidney is now pushed back into its normal position, care being taken to place the upper pole behind the liver. If attention should not be paid to this point, especially in cases in which the kidney tissues are very lax, it may push the peritoneum in front of it and take up a horizontal position at the under surface of the liver. One end of each of the three fixation stitches is now passed through the muscles and fascia forming the upper margin of the wound, near its posterior angle, and tied as they are passed. The kidney now lies well under cover of the ribs, with its lower pole on a level with the upper margin of the wound. The cavity under the kidney is packed with gauze and a dressing applied. This packing is left undisturbed for six or seven days, but subsequently it is renewed every two or three days till the wound has closed. The gauze gives temporary support to the kidney and relieves the strain on the fixation stitches.

29. **Tuberculous Rheumatism.**—From an observation of over 6,000 cases of pulmonary tuberculosis, Raw has not met with a single case of tuberculous rheumatism—at least, it was not recognized as such. He states that while it is very common to see cases of tuberculous arthritis attacking one or perhaps more joints, it is most rare to meet with a multiple arthritis of the smaller joints in the hands, fingers, wrists and ankles in the course of tuberculosis.

Now he cites in full one case, a primary infection of the neck glands with the bovine bacillus, probably conveyed through milk and absorbed from the tonsils and pharynx. The secondary arthritic infection was evidently through the blood-stream. The von Pirquet reaction was most violent. There was no affection of the lungs or pleurae. Six weeks after the onset of joint symptoms the skin of the legs and feet became red, swollen and brawny, and numerous bullae appeared which soon ruptured, discharging greenish pus. Some of these appeared on the arms; after healing a dark brown stain was left on the skin, which still remains. On the subsidence of the acute symptoms Raw commenced a course of tuberculin T. R. (human) in very small doses, to commence with 0.0001 mg. The injections were given weekly in increasing strengths to a maximum dose of 0.01 mg., and with most welcome result. The glands have subsided to half their previous size, while the joints have become smaller and more movable, although they are still stiff, but painless. The local reaction of the tuberculin at the site of injection was very marked and persists up to the present time.

Examination of the fluid from the joints revealed an excess of lymphocytes, which is, of course, morphonuclear leukocytosis, which occurs in true rheumatism. Raw has seen three cases of this rare condition. They were all secondary to a primary tuberculous focus in the neck glands, which is, in his opinion, almost always caused by the bovine bacillus, and he can find no record of tuberculous rheumatism occurring in the course of pulmonary tuberculosis which is most frequently the result of infection by the human bacillus. It would seem, therefore, that the bovine bacillus is much more likely to find its way into joints and also into the blood-stream, than the human bacillus, which is generally limited in its action to the lungs, larynx and intestines.

Journal de Médecine de Bordeaux

December 14, LXXXIV, No. 50, pp. 805-820

33 *Banti's Disease. Lacouture, Dupérié and Charbonnel.

33. **Banti's Disease.**—The patient in the case described was a woman of 39 and the spleen had been enlarging for seven or eight years, with progressive anemia but no jaundice, ascites; urobilin in the urine, no hemorrhages from congestion in the portal system, no enlargement of lymph-nodes, and no history of alccholism, syphilis, tuberculosis or malaria. The blood was of the chloro-anemic type with 30 per cent. hemoglobin, and the patient had attacks of diarrhea but without mucus or blood in the stools. Nothing in the blood indicated abnormal hemolysis. The condition thus seemed favorable for splenectomy, and the spleen was removed; it weighed 2.6 kilograms and measured 7 by 26 cm. The patient did not rally well and died the twenty-seventh day from the results of an infectious process possibly set up by emboli from the drained focus. The system was too much debilitated and lacked the normal leukocyte defense to oppose effectual resistance to the infection. There have been fifty-seven cases of splenectomy for Banti's disease reported since 1909, it is stated, and the present case brings to ten the number of patients who succumbed shortly afterward. The mortality is thus 19 per cent., which is the same figure as for the sixty-one cases recorded during the nine preceding years. This high mortality shows that as the technic has improved, the splenectomy has been done in more advanced cases. It would perhaps be better to reserve splenectomy for the first and second stages and not attempt such a serious operation as this when the patients are in the later stages of Banti's disease. Done at the proper time, the removal of the spleen permits prompt and practically complete restoration to health.

Lyon Médical, Lyons

December 14, XLV, No. 50, pp. 997-1048

34 Combined Sugar in the Blood Set Free by a Ferment. (Sur le sucre virtuel du sang.) R. Lépine and Boulud.
35 Recent Progress in Chemical Research on Azotemia. A. Morel and Mouriquand.

December 21, No. 51, pp. 1049-1096

36 *Milk and Typhoid. C. Porcher and A. Dreyfuss.

36. **Milk and Typhoid.**—Porcher and Dreyfuss describe an epidemic of typhoid at Havre traced to one dairy the milk from which had been guaranteed by the Pharmaceutical Society of the city. This milk was much sought after because of the guarantee, and a somewhat higher price was paid for it than for ordinary milk. It seems, however, that the only requirements were an examination as to its fat content and a negative tuberculin test to show that the cows were free from tuberculosis. No bacteriologic examination of the milk had been made. They discuss the question of legal responsibility under the laws of France.

Presse Médicale, Paris

December 10, XXI, No. 100, pp. 1005-1012

37 The Extension of the Domain of Syphilis in Recent Years. Debove.
38 Urinary Metabolism. II. (Desintégration de l'albuminoide. Rôle des acides aminés. Leur dosage dans l'urine.) L. Lematte.

December 13, No. 101, pp. 1013-1024

39 Serotherapy of Gonorrhea. R. Debré and J. Paraf.
40 Serodiagnosis of Pregnancy. B. Sabin.
41 *Fluids in Dyspepsia. (Comment doivent boire les dyspeptiques?) G. Leven.

December 17, No. 102, pp. 1025-1036

42 Contagiousness of Cerebrospinal Meningitis. C. Dopter.
43 Successful Suture of Stab-Wound of Heart. Aulong and Boudol.

41. **How Dyspeptics Should Drink.**—With a weak stomach it is of the greatest importance to do all to favor it in its work of digestion and do nothing to hamper it. Leven thinks that much harm is done by permitting dyspeptics to drink within five hours after a meal. They should drink only water or weak tea, for which he suggests an infusion of mallow, orange or linden-flowers or vervain. A teacupful should be taken half an hour before meals and not more than a third or two-thirds of a cup should be drunk with the meal. Roentgenoscopy has shown that normal stomachs do not evacuate all their contents until four or five hours or even more after a meal. Water drunk when the stomach is empty passes rapidly on into the intestine, sometimes in less than ten minutes, but if there is any food in the stomach the water is liable to be retained, possibly for hours. A few mouthfuls of bread may cause retention for several hours of a glass of water taken with or soon after it. Roentgenoscopy has shown that our old idea that the stomach becomes empty in two or three hours after a meal is a mistake; six hours is not at all an unusual interval for the food to remain in the stomach even with normal conditions. The Roentgen ray frequently shows the stomach still distended with contents when the individual supposes it has long been empty and is hungry again, or the reverse. When fluid is retained in the stomach it helps to distend the organ; it makes it heavier and thus drag on its supports and irritate the solar plexus, besides its depressing influence on digestion by diluting the digestive juices. He has witnessed many times the com-

plete relief of palpitations, pseudo angina pectoris, dyspnea, asthma, obesity and nervous symptoms when patients were thus instructed when, how much and how to drink The total ration of drinking fluids he says should be about 400 or 500 gm, that is, a little over a pint during the day, not counting in this the fluid in soups and the breakfast beverage

Revue de Médecine, Paris

XXIII, No 10, pp 753 832

44 Diabetes with Cirrhosis of the Liver, Two Cases L Bouchot and Volmat
45 Diabetes Mellitus R Lépine Concluded from Nos 6 and 8
46 Biochemic Effect of Roentgen and Other Rays H Bordier
47 *The Liver in Chronic Malaria C Fraga

47 **The Liver in Chronic Malaria**—Fraga concludes that the only change in the liver due to the malaria itself is an increase in size Functional disorders, if of any gravity, are due to other causes, such as alcoholism and poor nutrition

Semaine Médicale, Paris

December 24, XXXIII No 52, pp 613 624

48 *Auto Anaphylaxis as Explanation of Paroxysmal Hemoglobinuria F Widal, P Abrami and E Brissaud

48 **Paroxysmal Hemoglobinuria a Manifestation of Auto-Anaphylaxis.**—Widal and his coworkers have had opportunity to study in detail three typical cases in which dipping the hands in cold water for from five to twenty five minutes invariably brought on an attack of hemoglobinuria It was always accompanied by cramps, difficulty in breathing, nausea, and often by urticaria, pruritus, ecchymoses and sudden edema —in short, by the typical manifestations of anaphylaxis The clinical picture is actually identical with that of anaphylaxis, particularly noticeable in the rapid drop in the blood pressure, the extreme leukopeny—the white corpuscles being driven inward from the periphery, inversion of the normal leukocyte formula, and by the abnormally rapid coagulation of the blood, evidently from transient lack of antithrombin

Anaphylaxis hitherto has been supposed to be connected exclusively with the entrance into the body of some alien albuminoid substance, generally in the form of some serum But in paroxysmal hemoglobinuria the anaphylaxis occurs with the elements already present, and with nothing extraneous except the cold For this and other reasons, it seems plausible to explain the trouble as due to the fact that of the three substances found in normal serum, the complement, the antigen or sensitizer, and the antihemolysin, the latter is not stable as it is in most persons, but is peculiarly susceptible to cold Cold inhibits its action, dissociates it and the complement and antigen, thus released from its antagonistic action, are free to attack the red corpuscles in the circulating blood and destroy them

As the whole trouble is due to the instability of the hemolytic element in the serum, all would be remedied if the conditions could be rendered more stable We know that animals can be protected against anaphylaxis by treating them regularly with repeated injections of minute amounts of the substances which otherwise induce the anaphylaxis Applying this principle in the cases of paroxysmal hemoglobinuria, minute amounts of the patient's own serum were reinjected, and the course of the cases confirmed the efficacy of this method of autoserotherapy The experiences were absolutely convincing, it is stated, they throw light on numerous other conditions, showing that the physical state of the colloids of the blood is an important factor in disturbance of the balance in the organic fluids, and should be regarded in therapeutics

Archiv fur klinische Chirurgie, Berlin

CIII, No 1, pp 1 254 Last indexed Dec 13, p 2196

49 *Nerve Blocking at the Brachial Plexus and Its By Effects F Hartel and W Keppler
50 *Filling the Kidney Pelvis with Silver Salt (Experimentalstudie zur Kollargolfullung des Nierenbeckens) E Wossidlo
51 Surgical Treatment of Pulmonary Tuberculosis R Eden
52 Operative Treatment of Peritonitis from Perforated Gastric or Duodenal Ulcer J Jankowski
53 Sarcoma Carcinoma of the Breast N Takano
54 Inheritability of Appendicitis (Zur Frage von der Erblichkeit der Entzundung des Blinddarmanhanges) F. Colley.
55 *Experimental Research on Intravenous General Anesthesia with Hedonal N Beresnegowsky
56 Technic for Removal of Accessory Thyroid (Normalmethode fur die Operation der Zungengrundstruma) H Matti

49 **Nerve Blocking.**—Hartel and Keppler report their experiences with nerve blocking at the brachial plexus, which they have applied in 200 cases for operations on the arm The technic proved an entire success in all but 5 per cent of the cases, Kulenkampff's directions were followed to the letter In seventeen cases examined with the Roentgen rays, the adjoining half of the diaphragm showed signs of paralysis after the injection of the anesthetic into the brachial plexus, in another case there was slight impairment of its movements and in two no influence on the diaphragm. The paralysis of the diaphragm seems to be an almost regular occurrence, and although it so far has not been the cause of any serious trouble, yet it warns of the possibility of such and it positively forbids the blocking of the plexus on both sides at once Severe pain in the chest and dyspnea were observed in five cases and others have reported untoward experiences of this kind Some injury of the pleura by the needle seems the most plausible explanation for this It warns of the necessity for minute care in the technic and also that the method should not be applied except when institutional care is available The most serious drawback to the method, however, is the danger of permanent injury of the plexus, and they report a serious case of the kind The patient was a healthy woman of 64 who had fractured the right radius the day before The fracture was reduced under local anesthesia by blocking the brachial plexus and a splint was worn for nine days only. The radial nerve had evidently been seriously injured by the anesthetic and paralysis and pains followed with the reaction of degeneration almost complete The other nerves in the forearm were also involved to a lesser extent Not until the end of six months was a tendency to improvement manifest, the patient then could grasp objects and there was no further pain in the arm

50 **Injections into Kidney Pelvis**—Wossidlo had occasion to remove a kidney shortly after a silver salt had been injected into the pelvis for Roentgen-ray work He found deposits of the silver salt at various points in the kidney proper, and this finding was confirmed by experiments along the same line in dogs Great care must be taken to keep the amount injected below the actual capacity of the pelvis, and no injection of a silver salt should be attempted if there is reason to suspect an erosion, tuberculous process, stone or tumor in the kidney, as these are liable to be accompanied by some solution of continuity in which the use of the silver salt is fraught with danger.

55 **Injury from Intravenous Injections of Hedonal for General Anesthesia**—Beresnegowsky has been studying the effect of hedonal on the isolated heart and on the tissues in general. The blood-pressure rapidly drops and the breathing becomes weak and shallow or is liable to stop altogether, the heart action keeping up a few minutes after arrest of the respiration Four out of forty five patients stopped breathing, but were restored by artificial respiration, it had to be kept up for eighteen minutes in one case A thrombus developed in the vein in nine of the cases The patients slept from six to twenty hours after the operation and voided urine and stool unconsciously Eighteen of the forty five patients displayed great excitement when they finally roused; in some it resembled alcoholic delirium In one case over two hours after the operation pulmonary edema developed, two similar cases of fatal pulmonary edema after three and eight hours have been reported Extreme fatty degeneration of the kidneys was found in sixteen of the twenty two animals examined, and the heart, liver and adrenals also showed serious injury His conclusion is that neither hedonal, isopral or veronal are suitable for intravenous anesthesia, in amounts sufficient to produce the desired effect they injure the tissues irremediably Much work has been done in this line in Russia, but to date the problem has not been solved to find an anesthetic that can be injected intravenously, without harm, for operations on the head and neck.

in the meantime The kidney is now pushed back into its normal position, care being taken to place the upper pole behind the liver. If attention should not be paid to this point, especially in cases in which the kidney tissues are very lax, it may push the peritoneum in front of it and take up a horizontal position at the under surface of the liver One end of each of the three fixation stitches is now passed through the muscles and fascia forming the upper margin of the wound, near its posterior angle, and tied as they are passed The kidney now lies well under cover of the ribs, with its lower pole on a level with the upper margin of the wound The cavity under the kidney is packed with gauze and a dressing applied This packing is left undisturbed for six or seven days, but subsequently it is renewed every two or three days till the wound has closed The gauze gives temporary support to the kidney and relieves the strain on the fixation stitches

29 **Tuberculous Rheumatism**—From an observation of over 6,000 cases of pulmonary tuberculosis, Raw has not met with a single case of tuberculous rheumatism—at least, it was not recognized as such He states that while it is very common to see cases of tuberculous arthritis attacking one or perhaps more joints, it is most rare to meet with a multiple arthritis of the smaller joints in the hands, fingers, wrists and ankles in the course of tuberculosis

Now he cites in full one case, a primary infection of the neck glands with the bovine bacillus, probably conveyed through milk and absorbed from the tonsils and pharynx The secondary arthritic infection was evidently through the blood stream The von Pirquet reaction was most violent There was no affection of the lungs or pleurae Six weeks after the onset of joint symptoms the skin of the legs and feet became red, swollen and brawny, and numerous bullae appeared which soon ruptured, discharging greenish pus Some of these appeared on the arms, after healing a dark brown stain was left on the skin, which still remains On the subsidence of the acute symptoms Raw commenced a course of tuberculin T R (human) in very small doses, to commence with 0 0001 mg The injections were given weekly in increasing strengths to a maximum dose of 0 01 mg, and with most welcome result The glands have subsided to half their previous size, while the joints have become smaller and more movable, although they are still stiff, but painless The local reaction of the tuberculin at the site of injection was very marked and persists up to the present time

Examination of the fluid from the joints revealed an excess of lymphocytes, which is, of course, morphonuclear leukocytosis, which occurs in true rheumatism Raw has seen three cases of this rare condition They were all secondary to a primary tuberculous focus in the neck glands, which is, in his opinion, almost always caused by the bovine bacillus, and he can find no record of tuberculous rheumatism occurring in the course of pulmonary tuberculosis which is most frequently the result of infection by the human bacillus It would seem, therefore, that the bovine bacillus is much more likely to find its way into joints and also into the blood-stream, than the human bacillus, which is generally limited in its action to the lungs, larynx and intestines

Journal de Médecine de Bordeaux

December 14, LXXXIV, No 50, pp 805 820

33 *Banti s Disease Lacouture, Duperic and Charbonnel

33 **Banti's Disease.**—The patient in the case described was a woman of 39 and the spleen had been enlarging for seven or eight years, with progressive anemia but no jaundice, ascites, urobilin in the urine, no hemorrhages from congestion in the portal system, no enlargement of lymph nodes, and no history of alcoholism, syphilis, tuberculosis or malaria The blood was of the chloro anemic type with 30 per cent hemoglobin, and the patient had attacks of diarrhea but without mucus or blood in the stools Nothing in the blood indicated abnormal hemolysis The condition thus seemed favorable for splenectomy, and the spleen was removed, it weighed 2 6 kilograms and measured 7 by 26 cm The patient did not rally well and died the twenty seventh day from the results of an *infectious process* possibly set up by emboli from the drained focus The system was too much debilitated and lacked the normal leukocyte defense to oppose effectual resistance to the infection There have been fifty seven cases of splenectomy for Banti's disease reported since 1909, it is stated, and the present case brings to ten the number of patients who succumbed shortly afterward The mortality is thus 19 per cent, which is the same figure as for the sixty one cases recorded during the nine preceding years This high mortality shows that as the technic has improved, the splenectomy has been done in more advanced cases It would perhaps be better to reserve splenectomy for the first and second stages and not attempt such a serious operation as this when the patients are in the later stages of Banti's disease Done at the proper time, the removal of the spleen permits prompt and practically complete restoration to health

Lyon Médical, Lyons

December 14, XLV, No 50, pp 997 1048

34 Combined Sugar in the Blood Set Free by a Ferment (Sur le sucre virtuel du sang) R Lépine and Boulud
35 Recent Progress in Chemical Research on Azotemia A Morel and Mouriquand

December 21, No 51, pp 1049 1096

*36 *Milk and Typhoid C Porcher and [illegible] Dreyfuss*

36 **Milk and Typhoid**—Porcher and Dreyfuss describe an epidemic of typhoid at Havre traced to one dairy the milk from which had been guaranteed by the Pharmaceutical Society of the city This milk was much sought after because of the guarantee, and a somewhat higher price was paid for it than for ordinary milk It seems, however, that the only requirements were an examination as to its fat content and a negative tuberculin test to show that the cows were free from tuberculosis No bacteriologic examination of the milk had been made They discuss the question of legal responsibility under the laws of France

Presse Médicale, Paris

December 10, XXI, No 100, pp 1005 1012

37 The Extension of the Domain of Syphilis in Recent Years Debove
38 Urinary Metabolism II (Desintégration de l albuminoide Rôle des acides aminés Leur dosage dans l urine) L Lematte

December 13, No 101, pp 1013 1024

39 Serotherapy of Gonorrhea R Debré and J Paraf
40 Serodiagnosis of Pregnancy B Sabin
41 *Fluids in Dyspepsia (Comment doivent boire les dyspeptiques?) G Leven

December 17 No 102, pp 1025 1036

42 Contagiousness of Cerebrospinal Meningitis C Dopter
43 Successful Suture of Stab Wound of Heart Aulong *and Boudol*

41 **How Dyspeptics Should Drink**—With a weak stomach it is of the greatest importance to do all to favor it in its work of digestion and do nothing to hamper it Leven thinks that much harm is done by permitting dyspeptics to drink within five hours after a meal They should drink only water or weak tea for which he suggests an infusion of mallow, orange or linden flowers or vervain A teacupful should be taken half an hour before meals and not more than a third or two thirds of a cup should be drunk with the meal Roentgenoscopy has shown that normal stomachs do not evacuate all their contents until four or five hours or even more after a meal Water drunk when the stomach is empty passes rapidly on into the intestine, sometimes in less than ten minutes, but if there is any food in the stomach the water is liable to be retained, possibly for hours A few mouthfuls of bread may cause retention for several hours of a glass of water taken with or soon after it Roentgenoscopy has shown that our old idea that the stomach becomes empty in two or three hours after a meal is a mistake, six hours is not at all an unusual interval for the food to remain in the stomach even with normal conditions The Roentgen ray frequently shows the stomach still distended with contents when the individual supposes it has long been empty and is hungry again, or the reverse When fluid is retained in the stomach it helps to distend the organ, it makes it heavier and thus drag on its supports and irritate the solar plexus, besides its depressing influence on digestion by diluting the digestive juices He has witnessed many times the com-

plete relief of palpitations, pseudo-angina pectoris, dyspnea, asthma, obesity and nervous symptoms when patients were thus instructed when, how much and how to drink. The total ration of drinking fluids he says should be about 400 or 500 gm., that is, a little over a pint during the day, not counting in this the fluid in soups and the breakfast beverage.

Revue de Médecine, Paris

XXIII, No. 10, pp. 753-832

44 Diabetes with Cirrhosis of the Liver; Two Cases. L. Bouchot and Volmat.
45 Diabetes Mellitus. R. Lépine. Concluded from Nos. 6 and 8.
46 Biochemic Effect of Roentgen and Other Rays. H. Bordier.
47 *The Liver in Chronic Malaria. C. Fraga.

47. The Liver in Chronic Malaria.—Fraga concludes that the only change in the liver due to the malaria itself is an increase in size. Functional disorders, if of any gravity, are due to other causes, such as alcoholism and poor nutrition.

Semaine Médicale, Paris

December 24, XXXIII, No. 52, pp. 613-624

48 *Auto-Anaphylaxis as Explanation of Paroxysmal Hemoglobinuria. F. Widal, P. Abrami and E. Brissaud.

48. Paroxysmal Hemoglobinuria a Manifestation of Auto-Anaphylaxis.—Widal and his coworkers have had opportunity to study in detail three typical cases in which dipping the hands in cold water for from five to twenty-five minutes invariably brought on an attack of hemoglobinuria. It was always accompanied by cramps, difficulty in breathing, nausea, and often by urticaria, pruritus, ecchymoses and sudden edema — in short, by the typical manifestations of anaphylaxis. The clinical picture is actually identical with that of anaphylaxis, particularly noticeable in the rapid drop in the blood-pressure, the extreme leukopeny — the white corpuscles being driven inward from the periphery; inversion of the normal leukocyte formula, and by the abnormally rapid coagulation of the blood, evidently from transient lack of antithrombin. Anaphylaxis hitherto has been supposed to be connected exclusively with the entrance into the body of some alien albuminoid substance, generally in the form of some serum. But in paroxysmal hemoglobinuria the anaphylaxis occurs with the elements already present, and with nothing extraneous except the cold. For this and other reasons, it seems plausible to explain the trouble as due to the fact that of the three substances found in normal serum, the complement, the antigen or sensitizer, and the antihemolysin, the latter is not stable as it is in most persons, but is peculiarly susceptible to cold. Cold inhibits its action, dissociates it and the complement and antigen, thus released from its antagonistic action, are free to attack the red corpuscles in the circulating blood and destroy them.

As the whole trouble is due to the instability of the hemolytic element in the serum, all would be remedied if the conditions could be rendered more stable. We know that animals can be protected against anaphylaxis by treating them regularly with repeated injections of minute amounts of the substances which otherwise induce the anaphylaxis. Applying this principle in the cases of paroxysmal hemoglobinuria, minute amounts of the patient's own serum were reinjected, and the course of the cases confirmed the efficacy of this method of autoserotherapy. The experiences were absolutely convincing, it is stated; they throw light on numerous other conditions, showing that the physical state of the colloids of the blood is an important factor in disturbance of the balance in the organic fluids, and should be regarded in therapeutics.

Archiv für klinische Chirurgie, Berlin

CIII, No. 1, pp. 1-254. Last indexed Dec. 13, p. 2196

49 *Nerve Blocking at the Brachial Plexus and Its By-Effects. F. Härtel and W. Keppler.
50 *Filling the Kidney Pelvis with Silver Salt. (Experimentalstudie zur Kollargolfüllung des Nierenbeckens.) E. Wossidlo.
51 Surgical Treatment of Pulmonary Tuberculosis. R. Eden.
52 Operative Treatment of Peritonitis from Perforated Gastric or Duodenal Ulcer. J. Jankowski.
53 Sarcoma-Carcinoma of the Breast. N. Takano.
54 Inheritability of Appendicitis. (Zur Frage von der Erblichkeit der Entzündung des Blinddarmanhanges.) F. Colley.
55 *Experimental Research on Intravenous General Anesthesia with Hedonal. N. Beresnegowsky.
56 Technic for Removal of Accessory Thyroid. (Normalmethode für die Operation der Zungengrundstruma.) H. Matti.

49. Nerve Blocking.—Härtel and Keppler report their experiences with nerve blocking at the brachial plexus, which they have applied in 200 cases for operations on the arm. The technic proved an entire success in all but 5 per cent. of the cases; Kulenkampff's directions were followed to the letter. In seventeen cases examined with the Roentgen rays, the adjoining half of the diaphragm showed signs of paralysis after the injection of the anesthetic into the brachial plexus; in another case there was slight impairment of its movements and in two no influence on the diaphragm. The paralysis of the diaphragm seems to be an almost regular occurrence, and although it so far has not been the cause of any serious trouble, yet it warns of the possibility of such and it positively forbids the blocking of the plexus on both sides at once. Severe pain in the chest and dyspnea were observed in five cases and others have reported untoward experiences of this kind. Some injury of the pleura by the needle seems the most plausible explanation for this. It warns of the necessity for minute care in the technic and also that the method should not be applied except when institutional care is available. The most serious drawback to the method, however, is the danger of permanent injury of the plexus, and they report a serious case of the kind. The patient was a healthy woman of 64 who had fractured the right radius the day before. The fracture was reduced under local anesthesia by blocking the brachial plexus, and a splint was worn for nine days only. The radial nerve had evidently been seriously injured by the anesthetic and paralysis and pains followed with the reaction of degeneration almost complete. The other nerves in the forearm were also involved to a lesser extent. Not until the end of six months was a tendency to improvement manifest; the patient then could grasp objects and there was no further pain in the arm.

50. Injections into Kidney Pelvis.—Wossidlo had occasion to remove a kidney shortly after a silver salt had been injected into the pelvis for Roentgen-ray work. He found deposits of the silver salt at various points in the kidney proper, and this finding was confirmed by experiments along the same line in dogs. Great care must be taken to keep the amount injected below the actual capacity of the pelvis, and no injection of a silver salt should be attempted if there is reason to suspect an erosion, tuberculous process, stone or tumor in the kidney, as these are liable to be accompanied by some solution of continuity in which the use of the silver salt is fraught with danger.

55. Injury from Intravenous Injections of Hedonal for General Anesthesia.—Beresnegowsky has been studying the effect of hedonal on the isolated heart and on the tissues in general. The blood-pressure rapidly drops and the breathing becomes weak and shallow or is liable to stop altogether, the heart action keeping up a few minutes after arrest of the respiration. Four out of forty-five patients stopped breathing, but were restored by artificial respiration; it had to be kept up for eighteen minutes in one case. A thrombus developed in the vein in nine of the cases. The patients slept from six to twenty hours after the operation and voided urine and stool unconsciously. Eighteen of the forty-five patients displayed great excitement when they finally roused; in some it resembled alcoholic delirium. In one case over two hours after the operation pulmonary edema developed; two similar cases of fatal pulmonary edema after three and eight hours have been reported. Extreme fatty degeneration of the kidneys was found in sixteen of the twenty-two animals examined, and the heart, liver and adrenals also showed serious injury. His conclusion is that neither hedonal, isopral or veronal are suitable for intravenous anesthesia; *in amounts* sufficient to produce the desired effect, they injure the tissues irremediably. Much work has been done in this line in Russia, but to date the problem has not been solved to *find* an anesthetic that can be injected intravenously, without harm, for operations on the head and neck.

Beiträge zur klinischen Chirurgie, Tübingen

LXXXVIII, No. 1, pp. 1-230

57 *To Shut Off the Pylorus. (Ersatzmethoden der unilateralen Pylorusausschaltung. F. Kolb.
58 Cracking Sound when Scapula Is Moved. (Scapularkrachen.) Betke.
59 *Angioma in Tissue around Tendon; Two Cases. S. Weil.
60 Fascia Tumors. J. Massenbacher.
61 Dermoids and Congenital Epidermoids. L. Cederbaum.
62 *Traumatic Separation of the Skin. (Fall von Décollement traumatique — Morel-Lavallée — der Bauchdecken.) Stierlin.
63 *Fracture of the Neck of Femur in Children. (Was wird aus der Schenkelhalsfraktur des Kindes?) E. Schwarz.
64 *Operative Treatment of Flat-Foot. H. Els.
65 Clinical and Experimental Study of Arthrodesis of Ankle by Cramer's Method; *Relations* with Genu Valgum. A. Nussbaum.
66 *Osteoplastic Operations; Eleven Cases. J. Borelius.

57. **Exclusion of the Pylorus.**—Kolb states that he recently reexamined nineteen patients whose pylorus had been closed by throwing a ligature of fascia tissue around it. None of the patients showed the slightest permeability on the part of the pylorus on roentgenoscopy after intervals up to 418 days. The results are as complete as if the pylorus had been cut across. The fascia lata tissue seems the best adapted for the purpose, especially that from the lower third of the thigh, where it is particularly strong and even.

59. **Angioma in Peritendon Tissue.**—Weil gives a colored plate of the large angioma in the forearm of a young piano teacher which he successfully removed, as also in a second similar case. He has found only four cases of the kind on record. There was no pulsation in any instance, but concrements in the angioma were common. The growth never involved the tendon but spread over a larger extent than is common with angiomas in muscle tissue. The angiomas were removed in all the cases on record except in Richet's case; he cured the boy of 10 by injection of ferric chlorid into the growth.

62. **Separation of the Abdominal Wall from the Fascia.**—Stierlin states that separation of the derma from the fascia is seldom recognized until lymph accumulates in the cavity thus formed, causing the region to bulge; the bulge subsides or changes its place with change of position. Undulation is another sign. In the case he reports, the eighty-first on record, he states, the woman's abdomen had been trampled on by a cow, and the operation followed before the lymph had had time to accumulate in the cavity formed by the complete separation of the abdominal wall from the fascia. The thigh is generally the region involved.

63. **Fracture of Neck of Femur in Children.**—Schwarz concludes from the clinical experience at Tübingen that the neck of the femur only exceptionally becomes fractured in children. The primary signs of trouble are inability to use the limb, pain, swelling, contracture in outward rotation and possibly slight flexion, with shortening of the limb and unduly high trochanter. The fracture generally occurs at the point of attachment of the neck, and in its lack of tendency to heal it behaves like the similar fracture in adults. It differs from the latter, however, by the prompt restoration of ability to use the limb, although only with a limp, the leg still rotated outward and in abduction. In the six cases reported in detail the fracture healed with completely normal findings, both functional and roentgenoscopic, in only one case. In two of the cases the fracture consolidated in time but pronounced coxa vara was left, entailing a limp. In one case the fracture healed with great deformity of the entire upper end of the femur, and in two cases the entire neck of the femur wasted away, with complete separation of the epiphysis in one case. It seems to require as severe a trauma to fracture the neck of the femur in children as in adults. In four of the six cases reported the fracture was not recognized until several weeks or months had elapsed after the accident. In the two other cases the fracture was diagnosed and proper immobilization was applied from the first. The outcome was ideal in one case, but the other terminated in severe deformity from wasting away of the neck of the femur.

64. **Operative Treatment of Flat-Foot.**—Els states that the ultimate outcome was most excellent in nearly all the twenty-three patients with serious flat-foot disturbances treated by achillotenotomy by Nicoladoni's technic, as he describes in detail.

66. **Osteoplastic Operations.**—Borelius insists that no special skill is necessary for osteoplasty, particularly when the patient's own tissue material can be utilized. The operations were done for pseudarthrosis in six of his cases and for gaps in the long bones in the other five. In one case the upper end of the humerus was removed on assumption of sarcoma but the trouble proved to be merely a solitary cyst with an island of bone in the center. If the correct diagnosis had been made beforehand, the epiphysis would have been left and the function of the shoulder would probably have been better. A stretch of the fibula was inserted in place of the excised upper end of the humerus in another case and the functional result is excellent. The patient was a girl of 11. The same operation has given also excellent results in the case of a woman of 25 with giant-cell sarcoma.

Berliner klinische Wochenschrift

December 22, L, No. 51, pp. 2361-2408

67 *Syphilis of the Skeleton. (Zur Knochen- und Gelenksyphilis.) Axhausen
68 Physical Measures in Treatment of Surgical Tuberculosis. F. Wachsner.
69 *Operative Treatment of Metastatic Abscess in the Liver. O. Heinemann.
70 *Duodenal Ulcer and the Vegetative Nervous System. G. v. Bergmann.
71 *Diabetes Mellitus Simulating Diabetes Insipidus. R. Balint.
72 Disguised Form of Hodgkin's Disease. (Lymphogranulomatosis splenomeseraica.) F. Rosenthal.
73 *Decentralization of Certain Psychiatric Diseases. A. Münzer.
74 Technic to Arrest Hemorrhage in the Nasopharynx. (Die Tamponade bei Blutungen des Nasenrachenraums.) A. Meyer.

67. **Tardy Manifestations of Syphilis in Bones and Joints.**—Axhausen describes some cases of both the more common gummatous form and of the diffuse affection extending through a large extent of the bone and frequently mistaken for fibrous *ostitis or sarcoma*. In the case of a woman of 28 with syphilis acquired at 18 the arm was much swollen, the spindle-shaped enlargement involving the upper end of the ulna as well as nearly the whole of the humerus. This spread across the joint helped to differentiate it from sarcoma, and a series of roentgenograms show the remarkable subsidence of the bone process under specific treatment until the normal outline had been regained throughout, except that the elbow has become stiff from connective-tissue ankylosis. Syphilitic processes in joints may develop with a sudden stormy onset; in some cases chronic polyarthritis may be the clinical picture. It is now the rule in his service to apply the Wassermann test in every case of chronic arthritis, and in a number of cases it explained why years of treatment for the supposed tuberculosis had failed to benefit; a course of treatment for syphilis soon resulted in a complete cure. One such patient was a woman of 29 who had worn a plaster cast for four months on account of a supposed tuberculous process in the right knee. The Wassermann reaction and the discovery of slight thickening of the front of both tibias corrected the diagnosis, and all symptoms subsided under treatment of the syphilis. Puncture and plaster casts had been applied to two children on the same erroneous diagnosis of tuberculosis of the knee and no benefit had resulted, but both children were soon cured by treatment for syphilis, instituted as soon as the Wassermann test had been applied and given a positive result. In some, the healing was complete; in others there was evidence of rubbing in the joint, which suggests the possibility of trouble later.

An instructive case is that of a boy of nearly 6 who had been treated for a year with plaster dressings on account of pain and swelling in the left knee; the joint became stiff and the pains and swelling persisted. After two years arthrectomy was done, and as the other knee was now painful and swollen, it was immobilized and iodoform-glycerin injected. This joint too became stiff. A year later both elbows and one ankle became swollen. He came into Axhausen's hands then with both knees stiff, both elbows much thickened and the Wassermann was positive. Under treatment for syphilis all the swellings promptly retrogressed, and the elbows became normally and one knee partially movable. There seems little doubt that all the joint affections in this case had been the work of syphilis. On reexamination two weeks ago pain and stiffness in the cervical vertebrae suggested tuberculous spondylitis except that the child held its head as with torticollis. Treatment for syphilis was at once resumed and within the two weeks all these symptoms had disappeared, and with them the headaches.

Without proper treatment the joints are doomed to stiffen while all trouble vanishes as if by magic under the proper measures. He does not give salvarsan to young children, but regards it as indispensable in treatment of older children and adults. Its value is shown particularly in the last case described; the patient was a man of 30 with syphilis acquired seven years before. The joints swelled, the tibias thickened and the pains were severe; in the course of years they became unbearable. He applied to Axhausen begging to have both legs amputated, as he had been treated by numerous specialists and the condition was constantly growing worse. Salvarsan had just made its appearance at that time, and it transformed the patient so that in six weeks he left the hospital free from all symptoms and has had no return of any during the three years since.

69. **Multiple Abscesses in the Liver.**—Heinemann's patient was a young man who at 16 had had acute osteomyelitis; the liver trouble five years later was probably secondary to this. Slowly increasing fever, suggesting typhoid but gradually assuming a remittent type, with chills and enlargement of the liver were the main symptoms. The pulse was 110 or 120 but the general condition kept good. Puncture evacuated pus from a small cavity and the fever dropped. When it began to climb again, he punctured anew and found another small abscess which he evacuated. In this way he kept repeating the punctures whenever the temperature began to go up, with chills, and he thus evacuated eleven small abscesses, none having over 1 to 3 c.c. of pus. They were all about 5 or 6 cm. below the skin, and frequently he had to puncture up to ten times before he could locate the abscess. After each was evacuated he left a small glass drain in the cavity; sometimes the patient was wearing three of these drains at once.

In the course of four weeks fully a hundred exploratory punctures had been made, but the liver did not seem to suffer in the least from being thus honeycombed with puncture holes. It gradually returned to normal outlines and the patient was restored to apparently complete health with no impairment of his wage-earning capacity during the two years to date.

Heinemann's experience with acute osteomyelitis is that its mortality is about on a par with that of cholera; he has witnessed three fulminating cases. Recurrences may be observed a year or more afterward; Heinlein has reported a case in which the interval was thirty-six years before recurrence at the site of the old focus of osteomyelitis in the tibia.

70. **Neurotic Constitution the Primary Cause of Gastric and Duodenal Ulcer.**—Bergmann's research has demonstrated that disturbances in the innervation involved in secretion, motor and sensory functioning in the stomach constantly accompany both duodenal and gastric ulcer; also that in the majority of cases abnormal functioning in other organs depending on the vegetative nervous system is plainly evident. The conclusion follows that drugs to act on the vegetative nervous system are indicated in treatment of gastric and duodenal ulcer. A neurotic general constitution and neurotic phenomena in stomach and duodenum seem to be responsible for the primary erosion and prevent its healing, so that a vicious circle is set up.

71. **Diabetes Mellitus Simulating Diabetes Insipidus.**—Balint's patient was a man of 41, a diabetic, but the clinical picture was that of diabetes insipidus as the kidney did not seem to be permeable for sugar. The consequent retention of sugar tends to induce obesity. He warns that in every case of supposed diabetes insipidus the sugar content of the blood should be examined as this may reveal that the trouble is really diabetes mellitus.

73. **Serodiagnosis of Mental Diseases.**—Münzer applies the term "decentralization" to the modification in our conception of nervous and mental affections since Abderhalden has worked out his biologic tests. They show that in certain affections, such as dementia praecox, hitherto supposed to be entirely a brain affection, there is some organic substratum in other organs than the brain. These affections hence are "decentralized," and this suggests a possibility that methods of treatment may yet be found which will act on them. If dementia praecox is due to perverted functioning of certain ductless glands, it may be possible to influence it by acting on these glands, perhaps by castration or by administering the antagonistic organ extract. The brain must no longer be considered alone but in connection with the other organs.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 20, XLIII, No. 51, pp. 1689-1720

75 Plaut-Vincent's Ulcerating Stomatitis; Two Cases. Tièche.

Deutsche medizinische Wochenschrift, Berlin

December 18, XXXIX, No. 51, pp. 2489-2544

76 *Treatment of Unconscious Patients. (Behandlung des komatösen Zustandes.) Grober.
77 *Diagnosis of Duodenal Ulcer. A. Bier.
78 *Treatment of Dilatation and Diverticulum of the Esophagus. H. Starck. Concluded in No. 52.
79 *Behring's Diphtheria Vaccine. K. Kissling.
80 Modified Technic for the Dialysis Serodiagnosis. H. Oeller and R. Stephan.
81 *Acute Epidemic Poliomyelitis. (Zur Heine-Medinschen Krankheit.) Cassel.
82 Improved Technic for Differential Atmospheric Pressure. (Neuer transportabler Apparat zur Einatmung komprimierter und Ausatmung in verdünnte Luft.) G. Spiess.
83 Mother Cells for Myeloid Leukocytes. (Ueber eine bis jetzt unbekannte Stammzelle der Knochenmarkszellen — die Myelogonie — und über die wahre Stammzellenleukämie — Myelogonienleukämie.) S. Klein.
84 Disintegration of Capsules Holding Radio-Active Substances. Allmann.

76. **Treatment of Comatous State.**—When called to an unconscious patient, especially one of whose previous history you know nothing, Grober reiterates that the first step is to avert immediate danger from the heart or respiration, and after this to seek to discover the cause of the coma which usually requires very careful examination of the entire body. When it is impossible to remove the cause, such as a poison by venesection, the stomach pump, vomiting, stimulating the kidneys and purging, or render it harmless by giving an antidote, then treatment can be only expectant and symptomatic, keeping close supervision over the circulation and respiration and sustaining them as needed. Harm is often done by over-zeal, as many of the measures advocated require more or less cooperation on the part of the body which the strength is not equal to at the time. Wait therefore after applying one well considered and carefully applied measure for it to have its effect before attempting another, keeping calm under the pressure of the family and friends. Artificial respiration and stimulants for the heart are the main reliance, but measures to restore and maintain the body heat are indispensable. If there is actual paralysis from the action of a poison, atropin sometimes restores the lost tone to the muscles.

77. **Diagnosis of Duodenal Ulcer.**—Bier analyzes sixty-six cases of duodenal ulcer in which he operated and a few others in which the diagnosis proved erroneous. All but fourteen of the sixty-six patients were men. In another case a chronic appendicitis caused symptoms simulating in every respect the duodenal ulcer picture, but nothing of the kind was found at the laparotomy; the clinical picture was materially modified by removal of the appendix but some of the symptoms persisted unchanged. The condition as a whole was not improved by the operation. In another case a man of 47 had been treated by a quack twenty-seven years before for gonorrhea. He had been given by the mouth a solution of mercuric chlorid, and had had "stomach trouble" ever since. The symptoms finally became those of duodenal ulcer, but the operation revealed that the disturbances were from the old cicatrix left from the action of the chlorid on the stomach walls; the pylorus seemed to be intact. In these cases the classic train of symptoms characteristic of duodenal ulcer were all pronounced. Stiffening of the right rectus

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The patients did better after the operation on the thyroid when the thymus had been resected too; there was none of the threatening symptoms on the part of the heart and respiration to which we are accustomed after thyroidectomy. The thymus should be examined also in all operations for ordinary goiter, especially when there are phenomena on the part of the heart for which there is no entirely satisfactory explanation. It is not uncommon to find changes in the thyroid in such cases resembling the pathologic findings in the goiter in true Basedow. By paying more attention to the thymus in this way we can ward off cases of "thymus death," and by eliminating the thymic factor favorably influence true Basedow. In all his experience, resection of the thymus proved absolutely harmless and a comparatively simple and easy operation. *He does not think it is possible to determine the indications for thymectomy from the predominance of symptoms on the part of the vagus or sympathetic nerve systems; the better plan is to cut out part of the thymus if it is found too large for the patient's age.*

102. **Treatment of Roentgen-Ray Burn.**—Pagenstecher's patient was a man with a tuberculous process in the hip-joint which had been examined several times with the Roentgen rays and had been treated locally by various quacks. After roentgenoscopy again a severe dermatitis developed in the region, but there was no ulceration or necrosis and the dermatitis rapidly healed in six or seven weeks. Five months later the patient scratched the region and an extensive x-ray burn developed which became secondarily infected. After failure of conservative measures Kempf resected the area involved but recurrence again and again in the edges showed that the operation had not been carried far enough. The case teaches the importance of operating from the start without regard to the mutilation, carrying the limits of the excision into absolutely sound tissue, covering the defect later with a skin flap from the vicinity. He illustrates the four-flap technic which he found finally effectual in his case, without injury of vessels, etc. The case demonstrates also the necessity for heeding previous local applications to the region and previous exposures to the Roentgen rays before applying roentgenoscopy again.

103. **Iodin Treatment with Pathologic Thyroid.**—Salis and Vogel report the changes in the blood picture and in the thyroid in fifteen patients with various pathologic conditions in the thyroid and one normal control, before and after treatment with iodin, and in seven others not given iodin treatment.

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105 *Serodiagnosis of Cancer. (Serologische Geschwulstdiagnostik.) J. Halpern.

99. ***Thymus Hyperplasia.***—Haberer remarks that the lymphatic and the thymic status are not identical but may coexist; hyperthymization from hyperplasia of the thymus is often a factor in exophthalmic goiter. It seems to be particularly prevalent in his district (the Tyrol); he lost recently from this cause—the thymic status—six patients in one year, three after operations for cancer of the larynx and one each after an operation on the knee, on the thyroid and on the colon. Since then he has been wary of operating on patients with enlarged or persisting thymus, and refrains from general anesthesia as far as possible. In nine goiter operations he resected part of the thymus in addition to resection of the thyroid, including one case in which thyroidectomy had been done before without a cure. All but one of these patients were women, the age between 13 and 44. Four of the patients had pronounced exophthalmic goiter and two had some symptoms suggesting it. The immediate and late results in every instance were extremely favorable, so that he urges all to examine the thymus in all operations for exophthalmic goiter even when there are no symptoms to suggest hyperthymization; reduction of the thymus may prove more effectual than any operation on the thyroid in some cases.

The patients did better after the operation on the thyroid when the thymus had been resected too; there was none of the threatening symptoms on the part of the heart and respiration to which we are accustomed after thyroidectomy. The thymus should be examined also in all operations for ordinary goiter, especially when there are phenomena on the part of the heart for which there is no entirely satisfactory explanation. It is not uncommon to find changes in the thyroid in such cases resembling the pathologic findings in the goiter in true Basedow. By paying more attention to the thymus in this way we can ward off cases of "thymus death," and by eliminating the thymic factor favorably influence true Basedow. In all his experience, resection of the thymus proved absolutely harmless and a comparatively simple and easy operation. He does not think it is possible to determine the indications for thymectomy from the predominance of symptoms on the part of the vagus or sympathetic nerve systems; the better plan is to cut out part of the thymus if it is found too large for the patient's age.

102. **Treatment of Roentgen-Ray Burn.**—Pagenstecher's patient was a man with a tuberculous process in the hip-joint which had been examined several times with the Roentgen rays and had been treated locally by various quacks. After roentgenoscopy again a severe dermatitis developed in the region, but there was no ulceration or necrosis and the dermatitis rapidly healed in six or seven weeks. Five months later the patient scratched the region and an extensive x-ray burn developed which became secondarily infected. After failure of conservative measures Kempf resected the area involved but recurrence again and again in the edges showed that the operation had not been carried far enough. The case teaches the importance of operating from the start without regard to the mutilation, carrying the limits of the excision into absolutely sound tissue, covering the defect later with a skin flap from the vicinity. He illustrates the four-flap technic which he found finally effectual in his case, without injury of vessels, etc. The case demonstrates also the necessity for heeding previous local applications to the region and previous exposures to the Roentgen rays before applying roentgenoscopy again.

103. **Iodin Treatment with Pathologic Thyroid.**—Salis and Vogel report the changes in the blood picture and in the thyroid in fifteen patients with various pathologic conditions in the thyroid and one normal control, before and after treatment with iodin, and in seven others not given iodin treatment.

The findings emphasize the difference in the susceptibility to iodin of a normal thyroid and an exophthalmic goiter. In one case exophthalmic goiter with the typical changes in the blood picture developed under their eyes in consequence of the application of iodin to a wound in the foot.

104. **The Functions of the Spleen.**—Bayer regards the spleen and the thymus as capable of functionally compensating each other; after splenectomy the thymus does the work of the spleen, and after the thymus ceases functioning the spleen takes up its task. He tabulates the *metabolic findings* before and two, and six months and two years after splenectomy in two cases of Banti's disease, and compares them with those from experimental research and other clinical experiences. The data all confirm the multiple functions of the spleen: it retains the iron set free by destruction of blood-cells; it wards off hemolysis, and utilizes the stored up iron in it for production of new cells and hemoglobin, and it produces a hormone which has an inhibiting action on the sympathetic nervous system. The liver can store up iron in the place of the spleen, but it has not such avidity for the iron. With Banti's disease the spleen functioning is seriously impaired as also in myeloid leukemia, but it is not the same function which is impaired in these two affections. In Banti's disease the retention of iron proceeds normally or is even exaggerated, but the spleen has lost the faculty of working it up into new cells. The iron lies in the spleen as unutilized ballast. After removal of the spleen the iron is eliminated in much larger proportions and intestinal functioning is exaggerated from lack of the inhibiting hormone from the spleen—an exaggerated vagotonic condition. His two patients were young women and one has passed through a pregnancy since her splenectomy, normal except for signs of pregnancy nephritis.

105. **Serodiagnosis of Cancer.**—Halpern has been applying all the new methods of serodiagnosis in long series of cancer cases and reports rather disappointing results. He says that most of the methods require such a difficult technic and the outcome is so frequently conflicting that the methods have only a scientific and not a practical interest. The findings are frequently positive even in the non-cancer cases with the Grafe-Römer, the Neubauer-Fischer, and the Brieger-Trebing technics, which materially impairs their reliability. The Kelling and the Freund-Kaminer methods require special suspensions of hen's blood-corpuscles or of carcinoma cells, which render the application of the technics difficult in the clinic. Of the whole list he regards only three of the new methods as actual acquisitions. These are the Ascoli meiostagmin reaction, von Dungern's tumor reaction, and Abderhalden's dialysis method. None of the methods to date has proved so reliable that the diagnosis can be based on it and an operation done or omitted on this ground alone if the clinical findings do not agree with it.

He obtained a positive response with the von Dungern technic in 89 8 per cent. of 79 cases of cancer; with the meiostagmin technic in 84.7 per cent. of 46 cases of cancer, but with the Abderhalden technic, in only 30 of 102 cases of carcinoma and in 5 of 19 cases of sarcoma. This small proportion of positive responses to the Abderhalden technic is remarkable, as mistakes in the technic usually tend to increase the number of positive reactions instead of reducing the number.

Münchener medizinische Wochenschrift

December 23, LX, No 51, pp. 2825-2872

106 *Operative Treatment of Tuberculous Effusion in the Pleura. L Spengler and F. Sauerbruch.
107 *Recurring Colic in the Upper Abdomen in Children. (Rezidivierende Nabelkoliken bei älteren Kindern.) E. Moro.
108 The Thymus, the Ovaries and the Blood Picture. Experimental Research. F. Heimann.
109 Technic for Serodiagnosis. (Bereitung der Organe fur das Abderhaldensche Dialysierverfahren.) A. E. Lampé.
110 Epidemic Poliomyelitis in Bavaria. A. Uffenheimer.
111 Strictures in Ureter Simulating Kidney Calculi Trouble. Baar.
112 The Optimistic and the Pessimistic Physician. (Die Hohe Schule fur Aerzte und Kranke. XVIII.) M. Nassauer.
113 Rubbing with Emery Paper and Wearing Gloves Cures Rebellious Formaldehyd Eczema. O. Thilo.
114 Sand Better than Brush for Cleaning the Hands. O. Thilo.

106. **Operative Treatment of Tuberculous Effusion in the Pleura.**—Spengler and Sauerbruch apply alternately puncture with measures to induce the retraction of the lung, and they think that this gradual and alternating treatment represents great progress. As the cavity falls in the effusion grows less and less, and the patients become better able to stand more radical operative measures. Four of their thirteen patients treated in this way regained their earning capacity.

107. **Recurring Colic in the Upper Abdomen in Children.**—*Moro has encountered eighteen cases of recurring umbilicus* colic in children between 4 and 14. The recurring attacks of pain suggest chronic appendicitis or duodenal catarrh or helminths, but treatment on these assumptions does not bring relief. The trouble is of nervous origin; most of the children are nervous and excitable, with vasomotor disturbances, and they complain occasionally of pains elsewhere, in the legs. knee or between the shoulder blades. They are generally constipated and the constipation may resist ordinary treatment but yield at once to change of scene. He has been invariably successful in treatment based on the psychic origin of the trouble, first applying a little electricity to the region of the umbilicus, followed by a few strips of plaster over the region and belladonna and gentian pills internally. This often cured the tendency to constipation at one stroke and the colics did not return. The effect of course was exclusively by suggestion. The attacks begin with intense pain *in the region of the umbilicus or radiating upward, and may* last for a few minutes to several hours. They recur with a certain regularity, generally every two or three months, but the temperature was never above normal. Three of the children later became subject to periodic vomiting.

Therapeutische Monatshefte, Berlin

December, XXVII, No. 12, pp. 825-888

115 The Northern Seashore from the Medical Standpoint. (Die deutschen Meere in ärztlicher Beleuchtung.) Gmelin.
116 Technic for Subcutaneous Infusion of Sodium Bicarbonate. A. Magnus-Levy.
117 Meatless Diet in Therapeutics. Disqué.
118 *Technic for Feeding by Duodenal Tube. (Duodenalsondierung.) S. Wolff.
119 *Local Application of Alcohol for Burns. M. J. Breitmann.
120 Influence of Arsenic on the Blood Picture. R. v. Hoesslin.
121 Friedmann's Method of Treating Tuberculosis. Y.

118. **Technic for Duodenal Tube.**—Wolff regards the use of the duodenal tube as great progress in feeding children with stenosis or spasm of the pylorus, the cause of uncontrollable vomiting in infants. In three very severe cases he found no difficulty in getting the children to swallow the tube. The pylorus will often permit the lubricated tube to slip through when it absolutely refuses to allow the passage of even 10 c.c. of fluid stomach content. The great drawback of the method is that one is never sure whether the lower end of the tube is in the duodenum or has rolled up in the stomach. It is inconvenient to apply roentgenoscopy each time; the aspiration test is not always reliable, and when the child vomits a little of the stomach content there is danger that the retching will keep up and interfere with the desired feeding. It is amazing, he adds, parenthetically, to see how the children suffering from inanition begin to pick up at once and thrive when they can be thus properly fed through the duodenal tube. The technic he now advocates is to have the child sip a little aqueous or mucilaginous suspension of some local anesthetic just before it swallows the tube. Then a little fluid food is injected into the tube and the child is made to retch; this brings up some of the food thus taken if the end of the tube is in the stomach; if not, we can be certain the tube is in the duodenum, and the anesthetization of the throat prevents any continuance of the vomiting. As a still further aid in introducing the tube, a preceding injection of atropin may prove useful; he has found that even quite young infants bear without apparent harm 0.00005 gm. of atropin four times a day. This does away with the spasm which generally accompanies the anatomic stenosis. It has been his experience further that the use of the duodenal tube seems to have a favorable action on the stenosis itself, stretching the pylorus and thus removing the cause of the disturbances.

119. **Local Applications of Alcohol for Burns.**—Breitmann states that in an experience of fourteen years he has never witnessed any results with other measures comparable to those which follow immediate application of 60 or 70 per cent. alcohol to burns of the first or second degree. The burned area can be placed in a pan containing the alcohol or treated with compresses kept moistened with the alcohol. The pain is relieved, the inflammation subsides, the blisters retrogress and a dry scab forms, healing proceeding smoothly and leaving no trace of the burn. The shorter the interval after the burn before the alcohol is applied, the better the outcome in every way. When the blisters have not been opened the alcohol does not smart; alcohol is too painful to apply to burns of the third degree. The burned area has been sterilized by the heat, and the alcohol, applied at once, before any germs from without have reached the area, dehydrates, dries and tans the tissues, and under the tanned surface the parts below get a chance to heal aseptically. Alcohol above or below the 60 or 70 per cent. strength does not act so well.

Zeitschrift für Kinderheilkunde, Berlin

IX, Nos. 3-5, pp. 167-414. Last indexed Jan. 3, p. 82

122 Pulse and Blood Pressure in Normal Children. A. Katzenberger.
123 The Physiological Tendency to Icterus in the New-Born. A. Hirsch.
124 Icterus Neonatorum and the Secretion of Bile Pigment in the Fetus and New-Born Infant. A. Ylppö.
125 Congenital Occlusion of the Bile Duct; Two Cases, with Fat and Bilirubin Metabolism in One. A. Ylppö.
126 Modified Albumin-Milk. H. Bertlich.
127 The Winter Maximum in Infant Mortality. A. Peiper.
128 The Roentgen Diagnosis of Intrathoracic Burrowing Abscess in Children. E. Rach.

Zentralblatt für Chirurgie, Leipsic

December 13, XL, No. 50, pp. 1913-1944

129 *Indications for Operative Treatment of Aneurysm and Injured Vessels. H. Coenen.
130 *Treatment of Ascites. J. Kumaris.
131 Origin of Traumatic Hernia. B. Scharezky.
132 Care of Stump after Resection of Stomach. F. Smoler.

December 20, No. 51, pp. 1945-1984

133 Embolus in Abdominal Aorta. Recovery after its Removal. F. Bauer.
134 Resection of Obturator Nerve to Correct Contracture. (Resektion des Nervus obturatorius vor seinem Eintritt in den Canalis obturatorius zur Beseitigung der spastischen Adduktorenkontraktur.) K. Henschen.
135 Technic for Permanent Artificial Anus. A. Brenner.

129. **Indications for Operative Treatment of Blood-Vessels.**—Coenen calls attention to what he calls the "collateral sign of adequate circulation," which permits operative treatment of an aneurysm or injured vessel without fear of consecutive gangrene. The portion of the vessel involved is exposed and loosened from its bed and a ligature is applied just above and just below the aneurysm or injury. A clamp is then applied to the artery a little below the lower (peripheral) ligature and the artery is severed between the clamp and the ligature. The blades of the clamp are then opened a little and if bright red blood escapes from the peripheral stump, which the clamp has been compressing, this shows that there is already collateral circulation enough to nourish the tissues below and the aneurysm can be resected with confidence that all will be well. If no red blood oozes from the peripheral stump when the clamp is opened, provision must be made for the blood-supply to the region. He found this sign absolutely reliable in his experience with nine cases of traumatic aneurysm in the Balkan campaign, five of several months' standing.

130. **Treatment of Ascites.**—Kumaris conceived the idea that in ascites the peritoneum loses its absorbing power and a vicious circle is thus set up, tending to perpetuate the ascites. By resecting the parietal peritoneum over a large area, this non-absorbing membrane is done away with, leaving conditions favorable for absorption. He does not know whether this resection of the peritoneum has been done by others, but his experiments on dogs showed that they did not seem to suffer after large patches of the parietal peritoneum had been cut away. The dogs seem to be all in good health to date after intervals up to six months. Encouraged by this, he applied the measure in treatment of old malarial ascites in a woman of 50 who required tapping every fortnight. He resected on each side through an incision 19 cm. long, a square of peritoneum measuring 25x25 cm. The peritoneum was silvery white and much thicker than normal. The edema in the legs retrogressed, the general condition was good and the tendency to ascites seemed to be permanently conquered, but the third week the patient developed fulminating fatal erysipelas.

Zentralblatt für Gynäkologie, Leipsic

December 13, XXXVII, No. 50, pp. 1805-1836

136 *Relapse of Prolapse of Genital Organs. (Rezidive nach der sog. Interpositio uteri vesico-vaginalis.) W. Weibel.
137 Modified Technic for Vaginal Fixation for Retroflexion of the Uterus. E. Schürmann.

December 20, No. 51, pp. 1838-1868

138 Ante Partum Vaginal Douches. (Der Mechanismus der Scheidenausspülungen.) F. Ahlfeld.
139 Theory of the Internal Secretion of the Ovary. C. J. Bucura.
140 Hemorrhage in the Spinal Canal in the Newly-Born. (Epidurales Hämatom im Rückenmarkskanal bei Neugeborenen.) O. Gröne.
141 Reduction of Prolapsed Umbilical Cord. (Zur Reposition der vorgefallenen Nabelschnur.) H. Henne.

136. **Treatment of Relapse of Genital Prolapse.**—Weibel writes from Wertheim's clinic that in eight cases the prolapse recurred after the operation utilizing the uterus itself to reenforce the floor of the pelvis, the so-called interpositio uteri vesicovaginalis. He tabulates the details of these eight cases and states that conditions were effectually remedied by shortening the sacro-uterine ligaments and strengthening the perineum, supplemented by fixation of the uterus to the pubis arch and to the levator muscle on each side. The prolapse may recur by the fundus or the cervix presenting at the vulva, but the above technic provides for all contingencies.

Gazzetta degli Ospedali e delle Cliniche, Milan

XXXIV, Nos. 147-149, pp. 1543-1574

142 Chlorosis. F. Mottola.
143 *Hookworm Disease in Northern Italy. (L'anchilostomiasi in Desana.) G. Cavallone.
144 Auscultation of Transmission through the Thorax of the Tuning-Fork Note. (Trasmissione trans-toracica del suono dei diapason.) C. Minerbi and O. Tenani.

143. **Hookworm Disease in Italy.**—Cavallone states that he has encountered in the last eight years 285 cases of ankylostomiasis in the Vercelli district in northwestern Italy, with a population of 2,225. Those affected do not apply to a physician until they are unable to work longer, and consequently his figures give no idea of the actual prevalence of hookworm. There were twice as many women as men among the patients, and twenty-six children. In some of the cases recurring intense headache was the predominant symptom; in others, amblyopia not benefited by wearing glasses. Two students found it impossible to continue their studies until the discovery and cure of the ankylostomiasis. Uncontrollable hiccough was noted in one case; in others there were frequent syncopes with thready pulse and great general depression. Curvature of the spine or genu valgum retrogressed in two cases after cure of the ankylostomiasis. Epileptiform attacks, delirium and hallucinations in other cases ceased after the cure. The women aborted or gave birth to puny children, the debility of these children in later life contrasting with the robust health of the children born after the ankylostomiasis had been cured. Another point to which he calls attention is the peculiarly rapid fatal course of tuberculosis affecting persons already infested with the hookworm.

Policlinico, Rome

December 14, XX, No. 50, pp. 1805-1840

145 *Vaccination for Typhoid. V. Pensuti.
146 Mechanism of Heat Stroke. (La termocalorimetria del colpo di calore.) G. Sabatini.

December, Surgical Section No. 12, pp. 529-572

147 Fibromas of the Lower Lid E. Bartolotta.
146 Technic for Sclerectomy. C. Foroni.

145. **Vaccine Therapy of Typhoid.**—Pensuti refers to a previous communication from the same clinic which reported encouraging results with vaccine therapy in 120 cases of typhoid. He here brings the report down to date with an

additional series of thirty-nine cases No influence was apparent in three cases and it was a curious coincidence that the agglutination test was constantly negative in this group No untoward by effects were observed in any instance, even when the vaccination was repeated several times The general condition showed a marked change for the better in every case The patients were almost always found sleeping tranquilly the morning after the vaccination, and they soon asked for food There seems to be an immediate beneficial chemical action from the vaccine, distinct from the physiologic biologic action Eight of the patients were children between 7 and 12 and the results were equally good in all His dosage was rather higher than is customary, as he gave by subcutaneous injection 400 millions of the bacteria, then 200 millions and then 100 millions, generally on successive days In four cases there was no further fever, in three one day of fever, in 4 three, in 4 seven and in 4 ten days, with one case in which the fever kept up for three weeks The vaccine therapy did not seem to have any influence on complications

Hospitalstidende, Copenhagen

December 24, LVI, No 52, pp 1551 1582

149 *Iron and Arsenic Pills Are Liable to Pass Unmodified through Entire Alimentary Canal (Om Jern og Arsenikpiller) K Schroeder Commenced in No 51

150 Influence of Various Articles of Food on the Sugar Content of the Blood (Undersøgelser over forskellige Fødemidlers Indflydelse paa Blodsukkeret hos normale Diabetikere og gravide) A T B Jacobsen Concluded in No 53

149 **Iron-Arsenic in Pill Form**—Schroeder states that 138 were freshly made up of the 324 official iron arsenic pills taken by thirteen patients, and 235 of the total 324 were found in the stools Of the 150 Blaud's pills taken by thirteen patients, 128 were refound in the stools On the other hand not one of the 544 pills made according to his formulas were refound although some had been made eleven weeks before use Each formula calls for 0 1 gm of arsenic trioxid and 6 gm of dried ferrous sulphate, to be made up into 100 pills the vehicle in the first formula being 5 gm of flake manna plus 5 gm extract of gentian In the second formula the vehicle is 5 gm of flake manna and 4 gm of pulverized licorice with q s of extract of gentian In the third formula the vehicle is 4 gm of pulverized licorice with glycerin of tragacanth q s None of these three forms hardens with age, while the pill form is far more convenient than others, and this avoids the alcohol which is so often an ingredient of fluid medicines

Nordiskt Medicinskt Arkiv, Stockholm

XLVI, Surgical Section No 2 Last indexed Oct 25, p 1582

151 *Momburg's Belt Constriction for Hemostasis E Ahlstrom

152 Operative Treatment of Gangrenous Hernia in Swedish Hospitals, 664 Cases 1901 1910 J Akerman

151 **Momburg's Method of Hemostasis by Belt Constriction**—Ahlstrom presents all the evidence for and against prevention and treatment of hemorrhage by winding an elastic tube around the trunk below the costal arch His review of the literature and personal experiences fills nearly a hundred pages and is accompanied by five large folding charts giving the minute details of the effect on the blood pressure and respiration, etc, when the constriction was applied to rabbits and dogs He has found records of 127 cases in which the method was applied before or during operations, all but sixteen being in prophylaxis The records of obstetric cases number 246, to which should be added the two he reports from his own practice Contrary to the surgical cases, the method was applied in the obstetric cases for prophylaxis only in four instances (The illustrated description of the technic was published in THE JOURNAL, Oct 30, 1909, p 1519)

The only failures have been from inadequate constriction and this also entails certain disagreeable by effects which should be avoided His conclusions are that the method is reliable, and in obstetric cases the risk of injury from it is insignificant, under the conditions which prevail after delivery The method is particularly valuable for severe hemorrhage from laceration of the soft parts, especially with deliveries in the home, it gives the accoucheur time to attend to the lacerations properly or to have the patient taken to the hospital The method is also extremely useful to arrest severe hemorrhage before or after expulsion of the placenta, it renders tamponing superfluous The hemorrhage from inertia of the uterus does not start up again even after the tube has been unwound When the Credé fails, the constriction not only arrests the hemorrhage but the contractions of the uterus which it starts aid in the separation of the placenta The method is also useful in case of much hemorrhage during curetting for abortion or a mole, when the uterus does not reach up too high to forbid the constriction

The great value and comparative harmlessness of the Momburg technic in maternity cases is counterbalanced by the dangers from it and the liability to failure when the method is applied in current surgical work Its use in this field is very limited, as it is contra indicated when the heart is below par and also with arteriosclerosis, nephritis, exophthalmic goiter, anemia from repeated hemorrhages and debility from septic or tuberculous processes The functional capacity of the heart should always be tested before applying the method in surgical work This is not absolutely necessary in obstetric work as the abrupt rise in the blood pressure which follows the application of the constricting band is counterbalanced by the drop in blood pressure from the obstetric bleeding, especially as the child bearing women as a rule are young and the heart vigorous The surgical application of the method is restricted therefore to operations on the pelvis with which there is reason to fear considerable hemorrhage, but only when the field of operation will permit access to ligate any vessels that may bleed when the constriction is released, thus the indications for the method are mainly with extensive resection of bone in the pelvis, hip or thigh or traumatic injury involving this region The method should not be applied with a vaginal operation Experience has shown that the intestine is not injured by the method, no trace of injury has been found in the obstetric cases The danger is a little more in surgical cases, and persons with bowel affections or with tissues weakened by wasting disease or the like should be excluded from the method The pain of the constriction is generally bearable, but morphin may sometimes be needed

The precautions to be observed are that in obstetric cases the pelvis must be raised when the tube is being wound around the body, this prevents anemia of the brain and slight shock In surgical prophylactic cases the horizontal position is best, to hold back the blood in the legs, but when there has been preceding loss of much blood the pelvis should be raised The most dangerous moment is when the constriction is released; the blood pressure drops suddenly and drops extremely low, unless special pains are taken to prevent this The pelvis should be raised and the legs raised, and a constricting bandage should have been previously applied to the thighs, or possibly the blood should have been expelled from the legs by winding them from the feet upward These bands should be released only very cautiously and slowly and only one at a time, and not until some time has elapsed after the constricting tube has been unwound

The mishaps that have been reported from the method to date can all be explained by the abrupt fluctuations in the blood pressure caused by the application of the constricting belt Ordinary gas stove tubing can be used in an emergency, but this is liable to break, and it is better to have a special elastic tube for the purpose The arrest of the femoral pulse is the sign that the constriction is answering its purpose when used in prophylaxis of hemorrhage A pulse controller is useful to show that the femoral pulse has actually subsided, but if one is not at hand the tube can be wound around once more just as the femoral pulse ceases to be palpable In obstetric cases, the tube should be wound around, stretching the elastic tube, until the hemorrhage stops The arrest of existing hemorrhage is the simplest and most certain means of control

Ugeskrift for Læger, Copenhagen

December 18, LXXV, No 51, pp 2035 2078

153 Alcohol Injections in Treatment of Trigeminal Neuralgia P Levison

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THE AIR AS A VEHICLE OF INFECTION

CHARLES V. CHAPIN, M.D.
Superintendent of Health
PROVIDENCE, R. I.

From time immemorial, and until a very recent period, the air has been considered the chief vehicle of infection. It was certainly so when I became health officer thirty years ago. In Parke's "Hygiene," the standard sanitary text-book of the time, and in the edition of 1883, malaria and yellow fever were considered typical air-borne diseases. Typhoid fever was also said to be largely air-borne as was cholera and dysentery and the diarrheal diseases, and sewer air was alleged an important factor in their production. Typhus fever was thought to be spread by means of a vitiated atmosphere, as was also Oriental plague. My immediate official predecessor, Dr. Snow, a distinguished sanitarian of the time, considered scarlet fever only slightly contagious, but due to some epidemic influence, meaning thereby some general infection of the atmosphere. The late Dr. Janeway of this city taught me that the old water-courses of New York could be traced by the excess of diphtheria in the houses along them, due to the effluvia from the damp and infected soil. The well-nigh universal confidence in the phenolized sheet before the door and the saucer of chlorinated lime in the room as barriers against contagion, illustrate how much the air has been feared.

A great change has taken place within recent years in the attitude of scientific men toward the theory of aerial infection. Many diseases formerly considered air-borne have been shown to be transmitted invariably in other ways, and in others the rôle of infection by air has been shown to be much less important than was formerly believed. Some former theories of the mechanism of transmission by means of the air have been found to be untenable and some of the alleged facts of such transmission have been subjected to much criticism. Perhaps the best manner of setting forth present-day facts and ideas is to follow in a general way the course of their discovery and development.

While there have always been some careful observers, as Richard Mead in the eighteenth century and William Budd in the nineteenth, who doubted the supreme importance of aerial infection, the first effective questioning came from the laboratory. The discoveries of Pasteur and the work of Lister encouraged the current views, as it seemed that such minute forms as bacteria could readily float in the air and the difficulty of explaining how they get into the air from infected materials did not at first seem to be appreciated, for it was assumed, with little thought, that they were freely given off from feces, urine and other discharges and particularly that they were contained in the expired breath. The investigations of Nägeli, Buchner and others, in the late seventies of the last century, demonstrating that bacteria are not given off from moist surfaces and liquids in a state of rest, were disturbing to the old theories.

Lister had recognized the power of the respiratory passages to ensnare the bacteria of the air, though Tyndall was the first to demonstrate the fact that the expired air is sterile, a demonstration which was substantiated by many other observers. But so firmly intrenched were the ideas as to the air carriage of disease that other explanations were sought. This seemed to be especially necessary, as at about this time Koch published his discovery that tuberculosis is a contagious disease due to a bacillus. The fact that in most cases the seat of the lesion is in the lungs seemed to require an air-borne and respiratory origin.

The resistance of bacteria to drying and their transmission on small particles of floating dust were eagerly seized on as an explanation, and the authority of Koch, who urged this as a usual mode of infection in tuberculosis, did much to encourage a decided fear of dust as a vehicle of infection. The investigations by Cornet, in 1885, on the presence of tubercle bacilli in dust greatly increased the fear of dust infection, though Cornet's experiments are really a demonstration that even so resistant and common a bacillus is far from ubiquitous.

A vast amount of work has been done to determine the resistance of different kinds of bacteria to drying and their vitality in dust. The factors affecting the life of pathogenic micro-organisms outside of the body are so numerous that it is not surprising that quite discordant results have been obtained by different observers. Certain it is that some bacteria, as those of cerebrospinal meningitis, gonorrhea and influenza, die so quickly that their carriage on dust is practically impossible. On the other hand, the resistance of tubercle, typhoid and diphtheria bacilli is sufficient to admit of their floating on dust particles. On account of the mechanical obstacles in the way of explaining how substances so difficult to reduce to fine dust as feces and sputum could be dust-borne, other modes of infection were sought for, and in 1897, Flügge showed that infecting bacteria could be carried in the fine droplets of saliva which are thrown from the mouth during loud talking or coughing, but which are absent during quiet respiration. It had previously been shown that bacteria-holding droplets could be thrown into sewer air by the agitation of sewage, and this experimental work had perhaps suggested that similar droplets of saliva might be a means of spreading disease from person to person. The followers of both Cornet and Flügge inferred much more from the work of these investigators than was warranted, or than was claimed by the authors themselves. Because Cornet's guinea-pigs could become infected by clouds of tuberculous dust, and Flügge's pigs contracted tuberculosis when held a short distance in front of a coughing consumptive, one is not warranted in assuming that either dust or droplets are, under natural conditions, the chief mode of infection in tuberculosis, and there is still less warrant for such an assumption for other diseases. There is still less reason for assuming that because bacteria are observed to fall on agar plates from the air of a room the air is infectious, and no reason at all for the assumption that because a few diphtheria or tuberculosis germs survive drying for three or four weeks, diphtheria or tuberculosis are dust-borne diseases.

The question of dosage in causing disease is an all-important one, though it has usually been neglected in bacteriologic work on aerial infection. Winslow, however, appears to have fully recognized the importance of quantitative work, and his careful and extensive experiments on sewer air and on dust and the air of schools and dwellings has served to explain much of the contradictory work of others and to bring bacteriologic and clinical observation in accord. Winslow's first quantitative work was on sewer air. In 1907 careful experiments were made by Winslow in this country and by Horrocks at Gibraltar. The latter succeeded in recovering colon and also typhoid bacilli from the soil pipes of the barracks under quite natural conditions, and, though the number was not determined, he was believed by many to have thus demonstrated the dangerous character of sewer air. The number found by Winslow was so small that he deemed it necessary to make further observations. In nearly 200 liter samples of air from the soil-pipes of various buildings in Boston, he found sewage bacteria only four times, and only when there was splashing of sewage at the place and moment of examination. In such air as would be likely to escape from a drainage system, either from the vent-pipe or from an opening into a house, such bacteria were never found. Under ordinary circumstances, pathogenic bacteria, such as the typhoid or dysentery bacillus, must be far less numerous than are colon bacilli. The entire absence of the latter from 193 liters of sewer air, taken elsewhere than in the immediate vicinity of splashing, shows how slight must be the danger from this source, but perhaps this is best shown by a comparison given in Winslow's own words:

> In a surface water of good quality, like that of New York City, the colon bacillus can almost invariably be isolated from 10 c.c. This means a slight degree of intestinal pollution, but experience has shown that the chance of infection from such a water is but slight; and we drink it without serious alarm. If one were to breathe for twenty-four hours the undiluted air of a house-drainage system, at any point not immediately infected by mechanical splashing, it appears that less than fifty intestinal bacteria would be taken in; for the daily consumption of air is about 10,000 liters, and in 200 liters I obtained negative results from air of this sort. In drinking New York water twice as many colon bacilli are ingested every day, for 1,000 cm. is a small amount for daily consumption. So there would be less danger of contracting disease from continually breathing the air of a vent-pipe, or of a soil-pipe, except where liquid is actually splashing, than from drinking New York water.

Later, experiments were made by Winslow and Robinson to determine the extent to which general air infection in an apartment is caused by droplet infection. Out of 140 liters of air taken at various points in the room immediately after from ten to fifty minutes' loud speaking by a person whose mouth was infected with *B. prodigiosus*, the bacillus was found seven times. Of 74 liters examined for *Streptococcus salivarius*, none were found to contain this normal inhabitant of the mouth. The authors consider that an artificial infection of the mouth may give too high an index of air contamination, while the normal germs of the mouth may be thrown off in smaller numbers than are the disease germs from sick persons. The authors conclude that these experiments furnish "no basis for a belief that tuberculosis or any other disease is contracted to appreciable extent through the inspired air" and are "in harmony with the conviction now generally gaining ground that aerial infection of any sort is a minor factor in the spread of zymotic disease."

Still more recently Winslow has made quantitative studies of acid-forming streptococci in New York City schools. He says:

> It is well established that acid-forming streptococci are among the most abundant forms in the human mouth, while they are absent from sources which have not recently been exposed to human or animal pollution. The numbers of these organisms in schoolroom air were found by Professor Baskerville and myself in preliminary experiments a year ago to be quite small. We then found among 30,000 colonies isolated from 750 plates, exposed in schools with window ventilation, only ten mouth streptococci.
>
> In the present study in the examination of a total of 868 cubic feet of air, we found fifty-two mouth streptococci, or six for every 100 cubic feet of air.
>
> A child breathes less than 100 cubic feet of air during an average school period and these mouth streptococci must, of course, be far more abundant than pathogenic forms. At a rate of four or five mouth streptococci per day the chance of ingesting pathogenic bacteria from the air is seen to be a very slender one.

Although Winslow found so few of the bacteria of human saliva in the air of schoolrooms, on another occasion in various schools in this city he found them in dust in enormous numbers, even up to 100,000 in a single gram. This shows that the presence of germs in indoor dust, representing, as it does, long-continued precipitation, is no indication of the number floating in the air, and it indicates the worthlessness of the deductions which have often been made as to the danger of air-borne infection, from the mere demonstration of the presence of disease bacteria in dust.

While bacteriology has given us facts instead of theory as to disease causation and has made a science of sanitation, bacteriology alone cannot solve all our problems. The study of micro-organisms, pathologic findings, animal experiment and epidemiologic observations, must all be utilized and harmonized to solve the problems of disease transmission. It is for us to trace the effect which modern research has had on the old belief that practically all the infectious diseases are air-borne.

TYPHOID FEVER

Largely owing to the great authority of Murchison, it came to be believed, shortly after the middle of the last century, that the chief cause of typhoid fever was the *effluvia* from decomposing animal matter. When the late King Edward VII, then Prince of Wales, contracted a severe attack of this disease at Sandringham in 1871, the chance escape of sewer gas into his apartments was by every one considered a sufficient explanation of the case. Like others, I was at first possessed by the sewer-gas bogey, but failure to connect cases with this alleged cause began to undermine my faith. The discovery of the typhoid bacillus and more careful epidemiologic study soon determined that the greater outbreaks were usually due to infected milk, or other foods, and it came to be seen that the smaller groups and isolated cases could best be explained by contact infection. Finally, the carrier has been shown to be the link between hitherto unconnected cases. No form of air infection (except dust) has been alleged as a cause of typhoid fever for many years, and the reports of outbreaks of dust-borne typhoid fever in the Spanish and Boer wars and in India are based on the flimsiest evidence.

It is a common experience that typhoid fever is freely treated in the general wards of a hospital and that it rarely indeed extends to other patients, although these patients are breathing the air of the ward, perhaps for weeks at a time. It is not so very rare for the nurses of these typhoid cases to contract the disease, though with the development of aseptic nursing such infections are much less frequent than formerly. The only inference is that this disease is not air-borne in hospital wards, but is spread solely by contact.

CHOLERA, DYSENTERY AND DIARRHEA

Cholera, dysentery and diarrhea were, with typhoid fever, considered to be spread largely by means of air polluted by the discharges of patients. The discovery and study of the micro-organisms causing these diseases, and modern epidemiologic and preventive work, have shown the part played by water, food, contact, flies and carriers, and little room is left for the action of air infection. All of these diseases can be treated in general hospitals freely, without danger of extension to other patients. It has occasionally been alleged, especially in England, that summer diarrhea may be dust-borne, but no more than the seasonal distribution, in the drier months, can be adduced as evidence. Laboratory work, when conducted along quantitative lines, as carried on by Winslow, bedside observations and broad epidemiologic studies, are all in accord in denying to the air any part in the extension of this important group of excrement-borne diseases which only a few years ago we believed might be caused by a whiff of sewer air.

ASEPTIC SURGERY

One of the most interesting changes which has taken place in our conception of the part played by the air as a bearer of infection concerns aseptic surgery. When one considers the origin of modern surgery, one is not surprised at the emphasis which was at first placed on air-borne infection. The researches of Schwann, Pasteur, Tyndall and others on spontaneous generation, putrefaction and fermentation largely consisted of experiments showing that when micro-organisms floating in the air are excluded, putrefaction and fermentation do not take place. The admission of almost any air was found to give rise to the growth of bacteria and the occurrence of changes in the liquids under observation. We all know with what wonderful intuition Lister perceived the likeness of sepsis and suppuration to putrefaction and fermentation. His assumption that the former processes are due to the action of bacteria was, after the course of many years, abundantly verified. Lister's brilliant success in preventing sepsis and suppuration in wounds by destroying the infecting bacteria *in situ* or preventing their ingress was truly marvelous and could have been accomplished only by a man of surpassing imagination and inventive genius. Not only has the principle on which he worked been established, but much of the detail worked out by him remains fundamental in surgical practice to-day. Perhaps the greatest change concerns our view as to the infection of wounds from the air. In the beginning the air was considered the chief source of infection. This was perfectly natural and reasonable in the state of knowledge at the time. The work of Pasteur and Tyndall had shown the ubiquity of putrefactive bacteria and their almost universal presence in the air. Nothing was known of the great variety of bacterial species, or of the numerous influences hostile to bacterial life, or of the difference between spores and vegetative forms, or of the great differences in the resisting power of different species. It had been demonstrated that the admission of ordinary air to the test-tube always caused putrefaction; what more natural than to assume that the admission of air to wounds carried with it the germs of suppuration and that its exclusion was a necessity?

The paramount importance attributed to air infection in surgery is well illustrated by an incident of my intern days at Bellevue Hospital. The first strictly aseptic operation in the wards to which I was assigned, was to be undertaken. The room was washed with phenol, the dressings and instruments were sterilized, as were the body of the patient and the hands of the operator; caps and gowns were worn by all. What was considered perhaps the chief antiseptic service was to be performed by the intern, who arose at an early hour of the summer morning to start the phenol spray which was to disinfect the atmosphere, and which was kept going until the end of the operation. During the operation the surgeon dropped his knife on the floor. He picked it up, wiped it on his gown and continued his work. The incident attracted little notice and caused no comment. Such was the relative importance attributed to contact and air infection in those days. To-day, I think Ochsner reflects the best surgical opinion when he says: "Air infection is not impossible, but practically no wound infection is to be considered except from contact." It is true that most surgeons, at least during abdominal operations, guard against infection by mouth spray, but infection by visible droplets, from every practical point of view, resembles infection by direct contact, and is entirely different from the general infection of an apartment by invisible floating droplets.

Although effort is made to have the air of the operating-room, as all else in it, as clean as possible, surgeons do not hesitate to operate, and do operate with success, in the air of the tenement, which is far from dust-free. In fact, the air of even the operating-room does contain pus germs. Many observations have been made, both in Europe and in this country, on the presence of pus-forming bacteria in such situations, and they are practically always found to be present, appearing, often in very considerable numbers, on the agar plates exposed for their collection. Thus Harrington found in Boston operating-rooms a maximum of 131 colonies per square inch per hour. That such a number of bacteria are but rarely, if ever, capable of infecting a wound doubtless seems surprising to many. That they do not is due, doubtless, partly to the fact that, though still capable of growing on culture medium, their virulence is diminished by drying and exposure to light, and partly by their small number. That the chance of infection depends on the dosage is now an established fact, shown both by animal experiment and clinical observation. That a single germ will cause disease is a myth of the early days of bacteriology. Many, many germs are usually necessary, the number doubtless varying greatly with their virulence, with the species, with the nature of the disease process and with the mode of infection. That numerous living pus-forming bacteria floating in the air fail to infect when falling on the fertile soil of freshly cut tissues or exposed peritoneum should make us scrutinize closely the claim often made that pathogenic bacteria, more sparsely distributed still, can run the gauntlet of the respiratory passages and penetrate mucous surfaces, or reach and infect pulmonary alveoli, or pass thence into the blood-stream. It is not the mere presence of germs but their quantity that counts.

MALARIA AND YELLOW FEVER

Fifteen years ago malaria was considered a perfect example of an exclusively air-borne infectious disease and the virus of yellow fever was thought to be spread chiefly in the same way. It needs no reference of mine to call to your minds the brilliant work of Manson, Ross, Celli, Reid, Carroll and Gorgas which removed these from the list of the air-borne diseases, and, neglecting all modes of infection but the mosquito, stamped out the scourges in their strongholds.

TYPHUS FEVER

Most of you have doubtless seen the tablet in Bellevue Hospital on which are inscribed the names of the six interns who died of typhus fever in the outbreak of 1863-4. Of twenty-one members of the staff sixteen contracted the disease; an impressive record of its contagiousness in those days. That this contagiousness was due to the concentration of the virus in the atmosphere of the hospital was the universal belief of fifty years ago. We can to-day scarcely appreciate the heroism of the young men of those days, who, certain in their own minds of the infection of the air, without thought of themselves, breathed it all day long in the wards while ministering to the afflicted. Until within a few short years ago this belief prevailed, for we find typhus fever classed as an air-borne disease by Ker in 1909, in what is perhaps the best text-book we have on the infectious diseases. Nevertheless, careful observers had begun to note that typhus fever was not as readily transmitted in modern hospitals as it was in crowded prisons and ships or in the Bellevue Hospital of old days. Thus six hundred cases were treated in the City Hospital, Liverpool, without a single case of hospital infection. Wilder says that in the American Hospital in Mexico 144 cases were treated without transfer of the disease. Hay in Aberdeen, while noting instances of infection in the hospital during the outbreak of typhus in 1906, says that they were very few, as compared with former times, and confined to those who were brought in contact with the patients before or at entrance into the hospital. Those who handled the patients after they were cleansed escaped.

Now, thanks to the work of Nicolle, Ricketts and Wilder, and Anderson and Goldberger, carried on with such danger and at such a sacrifice, we have been given what is probably the true explanation of the epidemiologic phenomena of this disease. It has been conclusively shown by these experiments that the body louse can, under ordinary conditions, transmit the disease from man to monkey and from monkey to monkey. Three of these men contracted the disease and Ricketts died. Goldberger's attack came on five days after he was bitten by a presumably infected louse. The seasonal, geographic and social distribution of typhus fever all accord well with the theory that it is transmitted by lice, as does also its decrease in recent years in countries of the most refinement, while it still lingers in others. Formerly our hospitals, as well as our prisons and camps, were vermin-infested. No wonder that typhus fever spread in Bellevue Hospital when it could be said, as in 1837, that some of the chronic patients had not had a change of bedding in three months, while between 1881 and 1893, after the advent of the trained nurse, 1,897 cases were received in the hospitals of this city with extension of the disease to only one of the staff. Surely typhus fever must now be removed from the list of air-borne diseases.

SMALL-POX

A wider infection of the atmosphere has been claimed for small-pox than for any other disease. This claim was supported by what seemed very strong evidence and the local government board of England, the weightiest sanitary authority of the times, crystallized the then current views in the dictum that hospitals for this disease should be located at least a mile from inhabited areas. If the aerial infection of small-pox was effective at such a distance, it is no wonder that it was argued from analogy that other diseases were easily and commonly spread through the air of the sick-room or the hospital ward. It is therefore important to question somewhat in detail the evidence in support of this view. This I have done elsewhere,[1] and will now merely summarize what I have there written. Power's report on small-pox around the Fulham Hospital in London was the immediate cause of the stand taken by the local government board. Power attempted to show that whenever the hospital was occupied by acute cases, the disease developed in the neighborhood, showing a progressive decrease as the distance from the hospital increased. A similar increase around other hospitals in London and in a number of English cities, and extension from the isolation ships in the Thames, has been alleged. On the other hand, the disease did not always spread, even from Fulham, and numerous observers in both England and this country have failed to find any evidence of such extension.

Much of the material published by the English advocates of aerial infection does not stand criticism and analysis. Even at Fulham the thickly populated streets nearest the hospital were not much affected. Other sources of infection for the cases alleged to be due to aerial convection were not excluded, and a further study of the forty-one cases nearest the hospital at Fulham showed that twenty were due to direct contact. In Liverpool in 1902-3, according to the government inspections, the hospitals were the cause of much air-borne small-pox, but Hope, the able health officer of the city, completely riddles their evidence. Government inspectors also claimed aerial convection at Gateshead in 1903-4, but the local health officer showed that of the fifty-six cases on which this conclusion was based, fifty-two were clearly traced to contact with other cases. As for the ships in the Thames, small-pox appeared on the shore nearest the ships, and then gradually extended to a distance of 2 or 3 miles. This sort of an extension is just what would be expected in contact outbreaks. If the infection were air-borne, the near and distant communities would have been affected at the same time. It was claimed by Dr. Thresh that the influence of the ships could be noted at a distance of 4 or 5 miles. It was also claimed that several vessels anchored near the hospital ships developed small-pox twelve days later. That ships leaving London during the period of the extensive outbreak in that city should occasionally carry small-pox with them is not remarkable. Finally, it was admitted that surreptitious communication with the ships occasionally occurred.

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[1] Chapin, Charles V.: Sources and Modes of Infection, Ed. 2, New York, 1912. 260.

At the time of Power's investigation the control of small-pox was very lax. It is stated that many patients with small-pox walked to the London hospitals for admission, ambulance drivers stopped at public houses, children of the neighborhood rode on the steps, and friends with the patient inside the ambulance. Direct communication with the hospital often occurred. It would be most remarkable, if the disease extends from, say, one hundred cases to the distance of a mile with sufficient intensity to infect many persons, that it should not extend one hundred feet from ten cases or even from one case. Why should we not expect aerial infection frequently to operate at short distances from single cases? Yet such transmission does not occur unless with great rarity. How rare it is for any claim to be made that this disease has been carried across the street from house to house, and how unique a rigid demonstration of such an occurrence would be! How often a single case in a crowded lodging-house, ship's steerage or hospital ward fails to infect others! Yet we are asked to believe that one hundred cases can give rise to a whole circle of cases a half mile away. Either the amount of virus must depend on the number of patients or it must under hospital conditions develop in some marvelous way outside of the body.

Collie,[2] who for many years served in five of the London hospitals, has recently reviewed the evidence derived from them, particularly, that from the Homerton Hospital. He came to precisely the same conclusion as I did as to the fallacy of the theory of aerial transmission. He shows that the disease was not distributed around the hospitals as alleged, that much of it was due to contact infection, that the hospitals are in locations where the disease is rife, that it was often prevalent before the hospitals were opened, that unreported mild cases were very numerous, that the administration of the hospitals was lax and that the disease, as a consequence, was spread from them by personal contact. Collie furthermore shows that the incidence of small-pox in institutions adjoining the Homerton Hospital has been small, very different from what is required by the theory of aerial convection, and he gives figures to show a very small incidence of the disease on "other fever patients" treated in adjoining wards of the same hospital, though a large number of these were unprotected by vaccination.

PLAGUE

With the uncertainty as to the true nature of Oriental plague it is not surprising that, among other theories, as to its mode of infection, aerial transmission held a prominent place. The development and demonstration of the theory that plague is primarily a disease of rodents, and that it is spread to man almost exclusively through the agency of fleas, is a fine example of modern scientific method. In this work both the epidemiologist and the laboratory man played important parts. The most complete and convincing evidence was that furnished by the last British plague commission in India. Some of their experiments, demonstrating the agency of fleas in the propagation of bubonic plague, also demonstrated conclusively the entire absence of air-borne infection. Many experiments were made in infected native villages, in houses in which plague had been rife, and from which the human inhabitants had removed. Numerous rodents were exposed in flea-proof wire cages, or protected by sticky fly-paper, but of course freely exposed to the air of the apartments. As long as fleas could not reach the animals they never developed the disease, but numerous control animals exposed in the same places, but not protected from fleas, became infested with these insects and contracted plague. These experiments are entirely in accord with the experience that cases of bubonic plague may be treated in general hospitals without danger, if only the place is kept free from vermin. At the present time probably all epidemiologists are agreed that air infection plays no part in the spread of the disease.

PNEUMONIC PLAGUE

With pneumonic plague, conditions are very different. This form of the disease is usually highly contagious from person to person. The pulmonary secretion is large in amount and crowded with bacilli. Where this type of disease prevails, insanitary habits prevail also, and the opportunities for contact infection are great. Nevertheless the contagiousness of the disease is so great, that in the especially virulent form, which recently occurred in Manchuria, many observers were led to believe that the disease was easily air-borne, presumably by droplets. The primary focus of infection in a large proportion of cases seemed to be in the larger bronchi, though sometimes it was in the tonsils. Strong and Teague sought to demonstrate the presence of droplets by exposing agar plates held vertically before the patients, or in some instances guinea-pigs were so placed. It was found that no plague bacilli were deposited on the plates during quiet, or even labored breathing, though held within a few inches of the face. When held before coughing patients, even at the distance of a meter, they were commonly infected. The wards were crowded with patients and, owing, it was believed, to the droplets, the care of the patients proved very dangerous for the attendants. This danger seemed to be greatly reduced by wearing masks to prevent breathing the germs. The weather was extremely cold and damp, so that the breath was visible and often condensed on the agar plates. Teague and Barker have shown that plague bacilli in droplets sprayed from an atomizer, die in a few minutes in dry warm air, but live much longer in cold damp air, which fact he suggests may account for the occurrence of most outbreaks of pneumonic plague in the winter months. While it would appear that the air in the hospital wards in which these observations were made was dangerously loaded with bacilli-bearing droplets, it may be that it would be quite different if cases of this disease were treated in a ward with sufficient air space and a distance of say 6 feet between the beds. Dr. Strong is, however, strongly of the opinion that, owing to number and virulence of the bacilli and the amount of sputum, droplet infection is, under any conditions, a grave danger in this disease.

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[2] Collie: Small-Pox and Its Diffusion, Bristol (Eng.), 1912.

MEDITERRANEAN FEVER

The discovery of the etiology of Mediterranean fever is another brilliant example of the effectiveness of modern scientific methods. In the multiplicity of theories resulting from ignorance, of course, aerial transmission had its place. Even two or three years after Horrock's successful work I met a highly educated priest from Malta, who insisted that goat's milk had nothing to do with the disease, but that it came from poor drainage and the resulting effluvia. Among Horrock's numerous experiments were some in which he showed that the disease could be given to monkeys by making them inhale dust which had been artificially infected with large numbers of *Micrococcus melitensis.* Experiments such as this, under unnatural conditions, have little value. But when Horrocks kept monkeys under natural conditions, in separate cages, close by infected animals, they never developed the disease; in other words, there was no air-borne infection. The coccus of this disease has a considerable resistance to drying, much like that of the typhoid bacillus, and theoretically this might therefore be assumed to be a dust-borne disease. The presence of the germs in the urine of numerous goats which move freely about in the streets lends color to this theory. Horrocks showed that it can be dust-borne, but under natural conditions is not.

INFLUENZA

That influenza is air-borne, even over long stretches of country, was a common theory twenty years ago. That the air has no part in its extension from place to place, but that its presence is always due to the importation of cases, was abundantly proved by the observations of Schmid, Parsons and Leichtenstern. That the disease may be spread within a few feet of a coughing and sneezing patient by means of visible droplets is highly probable. That it is transmitted by floating droplets, or by dust, is not likely, as the bacillus has a low resisting power. Reliable clinical observations as to its extension in hospitals and dwellings appear to be lacking.

Judging from the feeble resistance to drying of the coccus of epidemic meningitis that disease seems unlikely to be air-borne and certainly cannot be dust-borne. The fact that meningitis treated in open wards does not spread also contra-indicates it, though the high proportion of carriers to cases somewhat weakens the argument.

Rather scanty experiment indicates that the virus of epidemic poliomyelitis may possibly be dust-borne, and the possibility of its transmission by house-flies, by biting flies and by direct contact with infected secretions has been demonstrated, but which mode of infection actually prevails under natural conditions we do not know. The fact that the disease occurs chiefly in dusty weather is no more reason for assuming it to be dust-borne than is the fact that it prevails in fly-time proof of its transmission by flies. As in meningitis, absence of infection in hospitals indicates that the air is not an important vehicle of infection.

PNEUMONIA

Although much is said, particularly in semipopular literature about the aerial transmission of pneumonia, we really know nothing of the way in which the coccus of this disease reaches the lungs. Nearly half the population at times carry the germs in the mouth. Pneumonia develops only when bodily resistance is weakened. How the coccus in these cases passes from the mouth to the lungs we do not know. That the more virulent strains sometimes pass from person to person seems certain, but neither pathologic experiment nor clinical observation has as yet shown the mode of transference.

SCARLET FEVER, DIPHTHERIA, MEASLES AND WHOOPING-COUGH

If we regard their frequency and the demands which they make on the practicing physician, the health officer and our hospitals, the most important of the contagious diseases, in this climate, are scarlet fever, diphtheria, measles and whooping-cough. Unfortunately, the laboratory has as yet been able to furnish but little evidence as to the mode of their infection. A great deal of evidence, however, has been furnished in recent years by clinical observations, particularly in hospitals. Within the last dozen years the great importance of contact infection has come to be recognized and hospital men have been learning to guard against the spread of disease in their wards by a technic similar to that made use of by surgeons to prevent the infection of wounds. There have been developed medical aseptic methods which so effectually eliminate contact infection that the part played by other modes of transmission can more easily be determined. The impression that air-borne infection is of small moment has been made on hospital superintendents slowly, but so surely that they have dared and have found it convenient to care for different contagious diseases in rooms opening into a common corridor, or rooms only partially partitioned, the so-called cubicles, or even in one open ward. In the latter case the patients are said to be "barriered," which simply means that there is a card or other indication on the bed that the nurse must take special care in passing from patient to patient. There has resulted a considerable mass of carefully collected data as to the aerial transmission of these diseases.

Scarlet fever and diphtheria have very generally been believed to be air-borne, especially scarlet fever. Great fear is always manifested by a neighborhood in which it is proposed to locate a hospital for these diseases, and until quite recently this fear has been shared by health officers. My own ideas as to the aerial transmission of these diseases began to be greatly modified many years ago, when I noticed that they do not spread from tenement to tenement in the same house, unless there is direct contact. In Providence, both scarlet fever and diphtheria spread to other families in about 7 per cent. of the cases, and a careful study of these extensions shows that they take place almost always, either before the disease is recognized, or because of direct contact afterward.

After our hospital was established it was carefully watched, but no especial incidence of these diseases was noticed in the well-populated tenements distant 150 feet. The most careful study of this alleged influence of the hospital was made in Boston, where it was shown that during the period of the observation no cases occurred within one-eighth of a mile, while in the next eighth of a mile circle there were sixty-eight cases. Similar observations have been made in other cities, and in no place is any evidence forthcoming of extension even between different buildings of the hospital.

As regards diphtheria, there is also most convincing evidence that it is not air-borne, even indoors. Although diphtheria carriers are almost constantly barriered in the scarlet fever building in Providence, and not rarely clinical diphtheria as well, there have been only three cases of cross infection among about five hundred cases.

In the isolation wards, in which different diseases are cared for in rooms opening into a common corridor, with 126 cases of diphtheria and 130 carriers, there has been no extension to the 541 other patients. Rundle in Liverpool, had no extension from 42 cases to 699 others in his open ward. Thomson had only 2 cross infections in over 1,200 cases. All of the English hospital superintendents agree that this disease is not air-borne. The extremely small number of cross infections are admitted to be due to failure in aseptic technic. Many hundreds of students have passed through the diphtheria wards in Philadelphia without contracting the disease. Although diphtheria is not air-borne, the bacilli are among the more resistant bacteria, more resistant than tubercle, influenza, pest bacilli, the cocci of meningitis or pneumonia or the cholera spirillum, and we should expect diphtheria to be more readily air-borne than the other diseases mentioned. Teague found the bacilli on a third of all plates exposed in front of speaking patients. The clinical evidence that diphtheria is not an air-borne disease, when purely bacteriologic evidence indicates that it is likely to be such, should make us suspicious of other bacteriologic deductions, deductions which are likely to be misleading if the quantity of the dose is not critically studied.

The evidence also is very convincing that scarlet fever is not air-borne. One reason why we have believed in the air carriage of scarlet fever is that we believed the desquamating epidermis to be infectious. This we now know is not true. For the best evidence we must again turn to the hospitals in which contact infection is reduced to a low limit by aseptic nursing, but in which there is no air separation. At the Pasteur hospital in Paris there has not been a cross infection of scarlet fever among thousands of patients. None occurred in the open wards at Manchester. Thomson had 5 cross infections in 1.290 patients in cubicles and 7 among 660 patients in separate rooms, though the circulation of air in the latter was less than in the cubicles. Rundle had 2 cross infections, and in both there was contact infection. Caiger, Goodall, Gordon, Peters, Crookshank, Biernacki and other English observers, agree that non-septic scarlet fever is not air-borne in hopitals. In Providence we have not been so successful, as we have had 8 cross infections among the 582 non-scarlet fever cases in our isolation wards. Dr. Richardson, the superintendent, believes that these were due to contact infection, owing to failure in nursing technic, or to the carelessness of interns. Schamberg says that none of the nearly two thousand students visiting the scarlet fever wards in Philadelphia have contracted the disease. Ward maids, who do not touch patients, rarely contract scarlet fever, while nurses and physicians coming within the range of visible droplets and coughed-up masses of sputum not infrequently do contract scarlet fever and diphtheria as well. In private families maids, who do not have the care of the children, practically never contract scarlet fever from them, while the parents and nurses do.

The French seem to have been the first to question whether or not measles is chiefly air-borne. The rapid spread of this disease in all institutions for young children in which it happens to be introduced affords one of the difficult problems of institution management. Grancher, believing that the disease is largely spread by contact, attempted to control it in the wards of the children's hospital in Paris, by means of aseptic nursing, without removing the patient from the ward, and he came to the conclusion that the disease is not air-borne, as did also Rohmer at Cologne.

At the Providence City Hospital measles cases are cared for, together with other diseases, in rooms opening onto a common corridor. There is no attempt at air separation and different diseases are attended by the same nurses and physicians. To October 1 of this year there have been admitted 320 cases of measles and 669 persons suffering from other diseases. During most of the time measles was present. During the first nineteen months, 38 cases were admitted with only one cross infection. Then we had three outbreaks, causing in all 23 cases but since May, 1912, there have been but 2 cross infections derived from the 139 cases of measles cared for in this building. The fact that during many months numbers of measles cases have been treated with no cross infection, although there is no air separation, suggests that air infection does not readily occur. Then, too, when cross infections do develop, they are quite as likely to be in distant rooms as in opposite ones. To us it seems, not that the virus of measles is air-borne to a distance, but that it is less easily washed from the hands of nurses and physicians than is that of scarlet fever and diphtheria. We admit a failure of our aseptic methods as hitherto practiced, rather than aerial transmission. There is a difference of opinion among the English hospital superintendents, and while Rundle has successfully cared for measles cases in open wards with susceptible children without cross infection, the others believe that at times the disease is air-borne. Goodall refers to one instance in which a measles case remaining in a twenty-bed ward over night caused nine cases, but he does not say how rigidly contact could be excluded. The evidence as to the aerial transmission of measles is conflicting, so that we are not justified at the present time in coming to a definite conclusion. I am inclined from my own experience to the view that it is not.

A comparatively small number of cases of whooping-cough are admitted to hospitals employing aseptic methods so that few data are at hand as to the mode of transmission. Rundle had no extension from thirteen acute cases treated in his open ward. Caiger thinks that it is not readily air-borne and Biernacki finds that cases can be aseptically nursed provided the beds are 12 feet apart, though to prevent the expulsion of visible droplets during the paroxysms he advises a canopy over the head of the bed. At Providence, twenty-five cases have been treated in the isolation rooms and some cases in other wards without transfer. The only extension in the hospital has been from unrecognized cases among diphtheria patients in which there was direct contact. Richardson is strongly of the opinion that the disease is not air-borne.

CHICKEN-POX AND RUBELLA

There is also difference of opinion as to the aerial transmission of chicken-pox in hospital wards. Most of the English observers think that at times it may be so carried. Goodall and Rundle think otherwise and their opinion is shared by Richardson in Providence.

Caiger does not think that rubella is easily air-borne, for he received 82 cases in his cubicles during eighteen months, and for several months there were from 6 to 8 cases in the wards at a time, yet there were only 2 cross infections. In the isolation wards of the hospital in Providence 37 cases have been admitted with no cross infection among nearly a thousand other patients admitted. At one time 3 cases developed in the diphtheria ward where they had been cared for by a nurse who was coming down with the disease.

TUBERCULOSIS

As tuberculosis has its chief, and apparently primary, seat in the lungs, it was only natural to assume that the route of infection is by the inspired air. Koch's studies on the resistance of the bacillus and its survival in dust greatly encouraged this view, as did the extensive observations of Cornet as to the presence of the germs in dust obtained in the neighborhood of careless consumptives. Then came Flügge, who attempted to show that dust is of little moment, but that infection by floating droplets is the chief mode of infection. The somewhat active controversy between the followers of these two men has, I think, merely served to convince most of us that under the conditions of the experiments both dust and droplets are capable of causing the disease. In tuberculosis, the pathologists take a prominent part in the discussion of causation, but are at variance as to where the primary lesion is to be found and whether the bacillus enters by the respiratory or alimentary tract. Many think that most tuberculous infection dates back to early life, and not a few derive it from the ingestion of milk, though this latter view seems to be losing ground. The weight of evidence derived from these lines of study seems to indicate that the infection is commonly, if not usually, air-borne, and that the primary lesion is in the respiratory tract. There are not a few, however, who hold that contact infection plays a prominent, if not the larger part, in the distribution of the disease and that bacilli-holding sputum carried to the mouth and nose in countless ways reaches the lungs by insufflation or by absorption through the tonsils or through lower sections of the alimentary tract.

Tuberculosis is such a chronic disease that it has thus far been impossible to devise observations on human beings which would throw much light on the route of infection. Recourse must be had to animal experimentation, and most of this has been done under conditions far from natural. Still, a good many experiments have consisted in exposing test animals in cages in apartments occupied by consumptive animals or human beings. A large number of tests made by the Department of Agriculture by exposure to animal sources of infection resulted in a very few cases of tuberculosis. Exposure of test animals in cages in rooms with human beings in Germany, France and this country has almost invariably resulted in the development of the disease in some of the animals, but unfortunately in no instance could contact infection be absolutely excluded, except in an experiment made in a house in Providence occupied by a careless consumptive. Here two sets of guinea-pigs were exposed in cages, one set fed by the patient and the other excluded from any possible form of contact. Most of the animals in both sets developed the disease. The animals in the locked cage covered with wire gauze were, I believe, infected by mouth spray, as the patient often held his face right in front of the box and talked to the animals. There is then a good deal of evidence to show that tuberculosis may be, oftentimes, an air-borne disease. This evidence is certainly far more convincing than for any other disease, except perhaps anthrax. If, as seems probable, the air may serve as a vehicle for the carriage of tubercle bacilli it is probably because, in this disease, more germs are discharged indoors in places where they are likely to get into the air than is the case in other diseases, and because the bacilli have a fairly high resisting power.

ANTHRAX

On theoretical grounds, anthrax ought to be more easily air-borne than any other disease. The spores resist drying for many years, their virulence is high and they are, at times, found in large numbers in materials handled by workmen in such a way as gives rise to much dust. Workers in wool and hair, coming from anthrax-infected regions, have always been subject to this disease. Formerly, when no precaution was taken to prevent the breathing of dust, the disease was very much more prevalent than it is now. During nine months, in 1882, thirty-two cases occurred in the woolen industry in Bradford, England, of which twenty-three were of the pneumonic type and presumably due to the inhalation of dust. Last year there were seventeen cases, and of these only three were of the internal type, so that it appears that with increased freedom from dust the latter type of the disease has shown marked decrease while the external type has not. Careful observers in England and Switzerland have noted the occurrence of anthrax in animals grazing on pastures on which dust from wool-sorting or hair-cleansing rooms was blown.

After this review, a summary scarcely seems necessary, or even a formal conclusion. We have seen that a number of important diseases, formerly considered exclusively air-borne, have been shown never to be such. There is little evidence that, among the diseases which commonly occupy our attention in this part of the world, aerial transmission is a factor of importance. In most it is under ordinary conditions of home and hospital, a negligible factor. For tuberculosis alone is there evidence that air-borne infection is a factor of moment, but the last word has not been said as to the etiology of this disease. We may be sure that the sewer-gas bogey is laid, the notion that dust is a dangerous vehicle of every-day infection is unsupported and that mouth spray is usually effective only at short distances.

HYPERACIDITY OF THE STOMACH

ADOLF SCHMIDT, M.D., GEH. MED.-RAT.
Professor of Internal Medicine, Vereinigte Friedrichs-Universität, Halle-Wittenberg
HALLE, GERMANY

There is hardly a single condition concerning which opinion and treatment have so much changed during recent years as so-called hyperacidity of the stomach. Practically this term is taken to mean those cases of increasing gastric disturbances which appear at various intervals after the taking of ordinary food or special kinds of nourishment. The pain is sometimes accompanied by eructations of gas and small quantities of soured fluid (heart-burn). On examination of the gastric contents obtained with the stomach-tube, there is found either hyperacidity, large quantities of normal stomach-juice, or acid gastric juice. Thus we have either hyperacidity or hypersecretion. The latter may be separated into a digestive and a continuous type.

The continuous type of hypersecretion, when appearing periodically, has been called by some authors gastroxynsis. The most serious cases of continued hypersecretion are known as Reichmann's disease or gastrosuccorrhea.

When further analysis of the cases for various abnormal stomach contents is attempted, many difficulties arise from the fact that the contents do not represent a simple mixture of the test-meal and the gastric secretion. In fact, they first undergo certain uncontrollable changes by their evacuation into the duodenum, which occurs almost immediately after eating. Furthermore, hydrochloric acid may be partly neutralized by the alkaline fluid of the duodenum and the mucus produced by the superficial gastric epithelium. Neither the most exact examination of the stomach contents, performed with repeated aspiration during digestion, nor the valuation of the residue by the Matthiew-Raymond method is able to give us a true idea of the different factors here active.

It is important to know if, in the disease spoken of, the amount of secreted hydrochloric acid is the same as in normal conditions.

In consequence of investigations made on the lower animals by Pawlow and on men by Rubow, Hornborg, Bickel and others, the opinion has been almost generally accepted that pure gastric juice has always the same rather high percentage of hydrochloric acid, even under pathologic conditions. According to this opinion we are led to believe that under normal circumstances the pure glandular product is diluted or partly neutralized by alkaline or gastric mucus, since we do not meet such high degrees even in the empty stomach. According to Forschbach and Schutz, we ought further to believe that the different kinds of hyperacidity or hypersecretion arise either from the secretion of stomach juice being too copious or lasting too long compared with the digestive stimulus represented by the test-meal, or by irregularity of the intervals occurring between the gastric secretion and the emptying into the duodenum. Recently Gregerson, by careful investigations, has proved that at least so far as the human stomach is concerned, Pawlow's opinion must be abandoned, unless we presume that the superficial epithelium produces concentrated alkaline fluid, together with pure gastric juice, a suggestion which is rather paradoxical. Comparing the stomach contents after the usual test breakfast (tea and toast) with those stated after the so-called dry testmeal, Gregerson found, shortly afterward, the same amount of fluid and nearly the same percentage of acidity in both cases. Hence we must conclude that the stomach secretion varies considerably in the amount of hydrochloric acid which it contains.

Under pathologic conditions, these variations occur with greater intensity in view of the fact that the gastric secretion, as well as the motility of the stomach, is dependent on the nervous influences which arise not only from the stomach contents, but also from the brain. It is not remarkable that the gastric contents, as well as the other symptoms of the disease, should vary with the state of the central nervous system. Patients themselves will talk of the whims of their stomachs. One suffers regularly from eating sweets, another from taking too much fat and a third stands the same food either badly or well, according to his mood. Nearly all of them agree that sorrow, excitement or other psychic influences increase their complaints.

One of the most interesting questions connected with this disease is whether or not there is an etiologic relationship between the hyperacidity of the stomach contents and the so-called acid pains, gnawing pressure in the stomach some hours after meals and the heart-burn. The common experience of instant cessation of these symptoms after a dose of sodium bicarbonate or other alkaline salts would seem to confirm it. But it is a well-known fact that hyperacidity and hypersecretion will continue even after the symptoms are completely relieved. Moreover, patients with diminished gastric secretion, achylia or hyperacidity complain sometimes of quite similar pains, so that no experienced observer will venture to take the hyperacidity for granted on the basis of anamnesis without confirming the condition by the use of the stomach-tube. As a matter of fact, the question has been decided in the negative by the results of a simple experiment. It has been found that large quantities of highly concentrated hydrochloric acid introduced into a normal stomach (Schmidt took solutions of 5 per cent.) do not produce such pains. The so-called acid pains, therefore, must be due to some other cause, either a spasm of the stomach sphincters or a hypersensibility of the mucous membrane, or hydrochloric acid, or something hitherto unknown. Cinematographic roentgenoscopy of the stomach during digestion, which has reached its highest perfection in the United States, has shown that very often the beginning of the so-called acid pains takes place at the same time as the spastic contraction of the pylorus.

Of more practical importance, but associated with the theoretical points just discussed, is the question whether the state of hypersecretion or hyperacidity occurs as a disease, *per se,* dependent only on nervous cases, or is always based on certain organic lesions such as gastritis, ptosis of the stomach, ulcers, adhesions, scars, gallstones, etc. A short time ago we did not hesitate to take the majority of the cases as pure stomach neuroses, provided that the presence of a clear sign, as hemorrhage or periodic stenosis of the pylorus, was not against it. To-day our opinion has changed chiefly in consequence of the rediscovery of duodenal ulcer and the description of its clinical signs by American and English authors. I shall neither enter into the difficult question of the exact diagnosis of duodenal ulcer, nor discuss the causes of its high frequency in America compared with the small number of cases occurring in Europe. Yet I shall attach weight to the merit of the Mayo brothers and other surgeons who have shown that an ulcer of the duodenal or pyloric region is often hidden by the symptoms of hyperacidity. We always have reason to suspect the presence of such an ulcer when roentgenoscopy reveals that peristalsis, initially increased, stops in the later periods of digestion; that the well known six hours' residue remains, and that these two periods are separated by a spasmodic contraction of the pylorus, which corresponds to the setting in of hunger-pains. Of course, roentgenoscopy gives more convincing signs, among which may be mentioned the deviation of the pylorus to the right, the worm-eaten cap and the constant filling of the duodenal bulbus, but they are seldom to be found in cases of mere hyperacidity running along without vomiting, loss of blood and other decisive symptoms of ulcer. Here I wish to emphasize the importance of a most careful examination by all methods available in each case of hyperacidity or hypersecretion in which there could possibly exist a hidden ulcer of the stomach or the duodenum, or scars, adhesions, etc., caused by them.

If the results are negative we must go on searching for other causes of hyperacidity. Certain rare cases, like beginning cancer of the pylorus, the occurrence of gall-stones and simple catarrhs of the stomach must first be considered. We can take it as a fact that in many liver diseases, especially those accompanied by pains, the secretion of the gastric acid is increased as the result of a reflex influence. There can also be no doubt that some acute, as well as chronic, inflammations of the stomach result in increased acidity, whether they are connected with atonic ptosis or not. These acid catarrhs may cause some difficulty for diagnosis, since the mucous product of the epithelium, the characteristic sign of catarrhal inflammation, is dissolved by the gastric juice, and therefore does not reappear in the washed-out specimen. The patients are afflicted often with an abnormal irritability of the stomach, so that even a little too much free acid leads to a spasm of one or both sphincters. When the stomach is washed, these patients choke continually and vomit violently. Here we encounter the hyperirritability of the mucous membrane already mentioned, which should be considered as a local manifestation of the general nervousness with which most of these patients are suffering. The irritability of the autonomous nervous system in the so-called vagotonic patients sometimes leads to spastic contraction of the stomach vessels, and this phenomenon is regarded by some authors (Bergmann, Roessle), as the very cause of the ulcer.

This shows that the present state of science does not allow a large space for the purely nervous cases of hyperacidity. It is due to the increasing refinement of our diagnostic knowledge that here, as well as in other branches of medicine, the number of those doubtful cases is more restricted, and the opinion is daily spreading that the nervous moment is only an accompanying symptom of an organic lesion, though the nervous feature may completely overshadow the real disease. Yet we should be premature in entirely denying to-day the clinical unit of hyperacidity. We confess, with resignation, that in practical medicine we often must be satisfied in stating the changed chemism of the stomach.

In treatment, the principal point is not to restrict ourselves to the stomach alone, but at once to aim at calming and strengthening the nervous system, the state of which is of so great importance for the comfort of the patient. Some patients suffering with hyperacidity can get rid of their disease in no other way than by giving up their work for some time, leaving their families and undergoing a real confining treatment in a hospital or sanatorium. I demand this in every severe case, and believe that I owe many good results to this procedure.

Naturally we try first to reduce the increased secretion of the stomach by application of medicines. Atropin is known as a substance which diminishes the secretion of the gastric glands as well as those of the salivary and sweat glands. Therefore the extract of belladonna, which at once levels the tonus of the vagus and removes the accompanying spasm of the sphincters, is a popular part of many stomach powders. Von Tabora recommended regular injections of 0.5 or 1 mg. of atropin before meals, but it is surely not advisable to continue this for a long time, if there is a chance of removing the real cause of the illness in another way. The alkalies which have already been taken for a time by most patients not only neutralize the superfluous acid, but, according to Bickel, also stop their production to a certain degree. On the other hand, they irritate the stomach glands, particularly if carbonic acid is set free by their reaction with the stomach acid, for the carbonic acid is not indifferent to the mucous membrane. Therefore, we prefer to give the magnesium oxid instead of sodium bicarbonate, and we combine it with small quantities of belladonna and a purgative salt, such as sodium sulphate. With the latter I intend to produce a transudation of fluid into the intestine and so to diminish the secretion of the stomach glands. The effect of the Carlsbad water, which often proves beneficial, seems, indeed, to result from the favorable combination of alkaline and purgative salts, but it should always be given in small quantities. Some other acid-binding drugs, as powdered charcoal, kaolin and aluminum silicate, act in another way, by mechanical absorption, each of them being worth trying occasionally. More heroic is the cure of Henriques and Hambart, who for a time withdraw all chlorids from the food. Winternitz and Petri of Halle followed a new principle by introducing magnesium peroxid into the stomach. These authors observed that small quantities of hydrogen peroxid diminished even in a pronounced degree the acidity of the stomach contents, and that this fact is based on an irritation of the surface epithelium, the alkaline product of which neutralizes the present acid. Here we have to deal with the opposing effect of one irritation to another. Lastly, silver nitrate belongs to this group. Its excellent effect on hyperacidity is caused partly by its astringent qualities on the secretory cells, and partly by blunting the hyperirritability of the mucous membrane. For the latter purpose it is to be given as a medicine to be taken half an hour before meals; for the former it is used as a solution to rinse the empty stomach in the morning by means of the tube.

As regards the diet, which is perhaps even more important than the treatment by medicine, opinions differ, though some controversial points are already cleared by the results of experimental medicine. There is no doubt that all kinds of foods and drinks which belong to the class of secretory stimulants must be avoided, as, for example, too much salt, sparkling drinks, high-percentage alcoholics, coffee, meat-juices or extracts of beef, and spices. More difficult is the question of how to arrange the meals. We distinguish three groups of diet specialists corresponding to the single groups of food; those who prefer albuminates, those who prefer carbohydrates and those who prefer fat. The advocates of the first group emphasize the fact that only the albuminates can bind the hydrochloric acid, and therefore have the same effect as the alkalines. They sometimes go so far as to prescribe that when the pains appear the patients should take regularly some food prepared from meat, eggs, etc., lest the stomach should become empty.

Contrary to this, the advocates of the carbohydrate diet assert that they are more correct, since the ingestion of carbohydrates stimulates the production of gastric acid little or not at all, while albuminates first stimulate and then neutralize the acid. They declare their diet as a rational one superior to the symptomatic albuminate diet. They not only avoid stimulating the production of the acid, but also try to produce a reflux of alkaline juice from the duodenum into the stomach, which is most easily done by taking one or two tablespoonfuls of pure olive-oil before meals.

With regard to these three groups, it must be stated, from a practical point of view, that it is most difficult to give one special kind of food for any length of time. Moreover, it is really unnecessary because experience shows that some other dietary prescriptions are more important. I long ago returned to a mixed food and am quite satisfied with it, but strictly observe the following rules, which I believe to be decisive:

1. All food must be well cooked and most carefully minced. This order is based on my own theory that the chief business of the stomach is to reduce the food into small pieces, not by its muscular force, but by chemical influences. These influences consist in the dissolution of the intermediate substances, the connective tissue of meat and fat, the gluten of the bread and the so-called "middle lamina" of the vegetables. As to the connective tissue, I have shown that only the gastric juice is able to digest raw or insufficiently cooked connective tissue, and that during the digestion of meat in the stomach it is always connective tissue which is first dissolved, so that the muscular fibers are set free. This phenomenon is the base of the connective-tissue proof which is a part of my test diet.

As to the disintegration of bread in an efficacious gastric juice and its remaining compact in achylia or hyperacidity, it is sufficient to mention the phenomenon which is generally known as amylorrhexia. The middle lamina of the vegetables is not really dissolved by the stomach juice, but is only prepared by it for dissolution in the alkaline intestinal juice. In this way the chemical stomach work leads to the reduction of all sorts of food into small pieces, and this is a much more significant act of the organ than solution of albuminous matter, as the latter is more surely and with more power effected by pancreatic juice. As the food pieces are broken up by the chemical influence of the gastric juice, they are pushed into the duodenum. Pieces not quite broken up remain for a long time in the stomach, while fluids are rapidly pushed forward. This process is also of importance for the evacuation of the stomach.

2. The stomach must come to rest at least once during the twenty-four hours. This can best be arranged by changing the usual time of meals. The patients should eat large quantities of food in the morning, but only a small quantity in the evening. This means that during the forenoon, when, according to my experience, the patients suffer the least from their pains, they should take two or three meals with intervals of two hours so that there is little appetite left for lunch. After lunch *they do not take anything until 7 p. m., when only* porridge is given. They will now fast until the next morning, and this change also has the advantage that the production of gastric acid, which has been adapted before to lunch and dinner, is regulated in a new manner; the chief secretory reflexes, easily provoked during the former style of living, are now put out of circuit. I can say certainly that I have obtained very good results with this method.

3. Drinking should be generally diminished and restricted to those hours when the stomach is not filled with food. I therefore give the meals rather dry, except the first breakfast and the evening soup, and let the patients drink a short time before lunch or in the afternoon. This prevents loading the stomach, which measure is of special importance to patients suffering from atonic ptosis.

4. If the condition is a severer one or if it is combined with ptosis of the stomach, the patients have to stay in bed for two or three weeks. I think this advice most important. It results from the experience that many patients have their acid pains only when being about or walking, never when lying down. It is further based on the frequency of latent ulcers which lurk behind the symptoms of hyperacidity.

It may be remarked that my dietetic treatment of hyperacidity comes into close touch with the old Leube cure in gastric ulcers. I confess that there is only a certain difference of degree.

I sometimes also order hot compresses in simple hyperacidity, if they give relief to the patient, but I do not apply them continually as Leube does—only twice daily for two hours. For the night I substitute cold hydropathic compresses for them.

Washing the stomach is indicated only if the hyperacidity rises on the basis of a catarrh. Then I rinse the empty stomach in the morning with 1:1,000 solution of salicylic acid or 1:5,000 solution of silver nitrate. Moving the bowels must be carefully regulated.

What is to be done if all these prescriptions do not lead to recovery? This question is equivalent to the other — "Under what circumstances are we allowed to operate in hyperacidity or hypersecretion?" — and cannot be answered generally. Indeed, the nature of the process alone, that is, its being a functional one, cannot always be decisive; it may sometimes be of less importance than the violence of the pains, or the general state of health or the social position of the patient. There is a difference between an apparently neurasthenic patient whose condition remains unchanged after a well-performed gastro-enterostomy which only reduced his stomach pains — for example, an old man who has given up business and can stand his pains if he takes care with his food — and a young man overwhelmed with his business who wishes at all costs to get rid of his sufferings. In the latter case I should advise an operation. There is no doubt, in my opinion, that a case of hyperacidity or hypersecretion, even without complication, which cannot be relieved by internal treatment in order to make the patient fit for work, gives an indication for operation. The manner and procedure of operation cannot be discussed here in detail. This depends on the state of the patient's condition found during operation. If an ulcer of the pylorus or duodenum or a scar is the cause of the hyperacidity, gastro-enterostomy is the right procedure, and if possible, the pylorus should be closed. Perigastritic adhesions must be loosened, and gall-stones removed by cholecystotomy or cholecystectomy. But what is to be done if there is no anatomic lesion at all? In these cases I should advise gastro-enterostomy, but without the closing of the pylorus. The latter can be recommended only if violent pylorospasm is present. The patient should never be allowed to get up and eat anything he wants immediately after recovering from the operation; he must go for some time with the diet and drugs in the same manner as before operation, as the operation does not restore health alone, but only establishes conditions favorable for internal treatment.

Fee-Splitting.—The secret division of fees between two practitioners is indefensible in theory and reprehensible in practice. Viewed from any and every angle, there is no argument that will validate the physician's attitude of auctioneer —selling out his patient to the highest bidder. Nor can the purchaser, by any specious argument, justify his part in so foul a transaction. The practice is rampant not only among those of smaller incomes, but with those enjoying large means as well. Poverty does not justify crime any more than low wages immorality; and certainly, cupidity lays a poor foundation for fair dealing, but builds well for moral strabismus.—Arthur J. Patek, M.D., *Wisconsin Med. Jour.*

SOME POINTS IN THE TREATMENT OF HYPERACIDITY

ESPECIALLY WITH REFERENCE TO THE USE OF HYDROGEN DIOXID *

CHARLES HUGH NEILSON, Ph.D., M.D.
ST. LOUIS

Hyperacidity is usually considered a secretory neurosis of the gastric mucosa. This so-called neurosis is caused by reflex stimulation of the gastric mucosa by disease elsewhere in the body. We may therefore consider hyperacidity as a symptom of disease, rather than a disease itself.

The observant clinician often finds hyperacidity in the overworked, in those who lead sedentary lives with improper food and insufficient exercise, and in those who work under a great strain. He finds it as a common accompaniment of chronic appendicitis. It is frequently encountered in gall-stones, floating kidney, mobile cecum and movable and fallen transverse colon. Women with uterine misplacements, especially women with menstrual disorders, are well-known subjects of this disease. It is one of the early signs of beginning hyperthyroidism and incipient tuberculosis. Ear-troubles and eye-strain are frequently the cause of this condition. It is found in ulcer of the stomach in the majority of cases, and finally many cases are found in which the basic trouble is some nervous or some psychologic disturbance.

Nearly all workers in gastric disease agree that perhaps a majority of dyspepsias and indigestions are cases of hyperacidity.

In these cases of hyperacidity we are generally dealing with a complex affair and not a simple local chemical condition in the stomach. In no pathologic condition is a careful history, a complete detailed and repeated examination so important as in the treatment of this class of cases.

In the treatment of hyperacidity we must therefore first make a correct diagnosis, searching carefully for some cause of this condition. Often the removal of this cause removes the trouble, and the treatment of the chemical condition in the stomach is of minor importance.

In addition to these general or exciting causes, there is a local condition in the stomach itself which must be considered. Any person who has suffered from hyperacidity for any length of time will have certain pathologic changes in the gastric mucosa which must be treated. In a large percentage of these cases there is a concomitant hypersecretion or a continued secretion which must share our attention in the treatment. There is also a troublesome change in the gastric mucosa, called gastric hyperesthesia, which is of great importance to consider in the treatment. Along with these conditions we often find pylorospasm, hypermotility or gastroptosis. These conditions must also be considered in the treatment.

We may divide hyperacidities into the following classes:

1. Chemical hyperacidity with a normal quantity of gastric content after a Boas-Ewald test breakfast.
2. Chemical hyperacidity combined with hypersecretion or with a continued secretion. Here the quantity of gastric content is abnormally and constantly large.
3. Chemical hyperacidity combined with hypersecretion and hyperesthesia.
4. Clinical or symptom hyperacidity with hyperesthesia. In this class of cases we have all the subjective symptoms of a chemical hyperacidity. In these cases we find a normal total acidity, or even a subacidity. The symptoms are due to the hyperesthetic condition of the gastric mucosa which is painful in a normal or even subnormal acid content.
5. In this class we may find any one or a combination of the foregoing together with pylorospasm, hypermotility or peristaltic unrest.

The treatment of hyperacidity may be classified as follows:

1. Removal, if possible, of the general or exciting cause.
2. Treatment of the local condition: (*a*) dietetic; (*b*) medicinal; (*c*) physical therapy.

The local condition is for the most part a chemical affair, and therefore the dietary is a most important feature of this treatment. To diet successfully in any disease, but especially in gastric disease, a knowledge of the physiology and chemistry is important and necessary.

In the gastric juice the most important constituents are the protease enzyme, pepsin and the hydrochloric acid. The hydrochloric acid acts on the proteins, changing them into acid metaprotein, this constituting "combined" hydrochloric acid. This substance loses its distinctive acid properties and produces no chemical irritation to the gastric mucosa. This fact is of vital importance in dieting in hyperacidity cases. It is the free acid which produces the pain and discomfort, and not this combined acid.

Schüle[1] of Freiburg performed on himself the following experiment: On his forearm he cut off two fair-sized pieces of epidermis. On the one denuded surface he placed 0.2 per cent. hydrochloric acid. At once there was an excruciating burning pain. On the other denuded surface he placed 0.2 per cent. hydrochloric acid, which had been saturated with albumin. In this case there was no pain at all.

All dietaries, therefore, for the treatment of hyperacidity ought to include those foods rich in protein, such as eggs, meats in all forms, fish and cocoa, which have a high acid-combining power. These foods will combine with the excess acid and the pain and discomfort will tend to disappear. In many cases beautiful results are obtained; in others the results are not so good.

The explanation of this difference may be as follows:

1. Those patients who have a straight chemical hyperacidity with no hyperesthesia, hypersecretion, etc., do well on a high-protein diet.
2. Those foods which have the highest protein content are stimulating to the gastric mucosa, and more acid may be produced on account of this stimulation. By using a high-protein diet we may increase the quantity of hydrochloric acid instead of lessening it.

In support of this view we have the classification of foods by Bickel,[2] as follows:

1. Foods strongly stimulating to the mucosa: (*a*) raw and cooked meats; (*b*) coagulated albumin; (*c*) yolk of egg; (*d*) skim-milk and casein.
2. Foods which are only slightly stimulating: (*a*) full milk; (*b*) cream; (*c*) pure carbohydrates; (*d*) pure

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* From the Department of Medicine in St. Louis University School of Medicine and the Alexian Brothers' Hospital.

[1] Schüle: Ulcuskuren und Diät bei Hyperaciditas ventriculi, Arch. f. Verdauungskr., 1910, xvi, 588.

[2] Bickel: Ein Diätschema für die Behandlung der Sekretionsstörungen des Magens, Verhandl. d. Balneologenkongresses, Berlin, 1910

uncoagulated albumin; (*e*) vegetables—not coarse; (*f*) sweet egg foods.

If we consider the acid-binding power as the essential factor in this diet we must give the foods of Class 1. If we wish a diet that has only a half or two-thirds the acid-combining power, but is far less stimulating to the mucosa, we shall use Class 2.

Any hyperacidity diet which is properly carried out is the same as the so-called ulcer diets. It has this difference, that the hyperacidity diet can more rapidly be changed into the normal or mixed diet. These ulcer diets are well known, the best-known two being the Leube and the Lenhartz diets. The Lenhartz diet is rich in proteins and as such furnishes a high acid-combining power, but it belongs to the class of foods which stimulate gastric secretions.

The Leube diet is in some respects a mixture of Class 1 and Class 2, and to my mind is the ideal diet for general use. I feel that it is especially adapted for more of the hyperacidity cases than the Lenhartz diet.

To diet these patients we must study our case carefully to see with what class of hyperacidity we are dealing. In this connection, however, it is well to remember that in a way each case is a law unto itself and will often need a diet which will not fall under any prescribed diet.

There is another thing of importance in dieting these patients: frequent feedings generally give better results than large feedings at longer intervals. As a rule, large feeding at regular meal-times, with small feedings in between and at bedtime, is ordinarily used.

Before a diet is commenced the physician ought to have clearly in mind a well-mapped scheme for giving the diet. This scheme should not be modified in any way except on order of the physician. It is only by perseverance on the part of both the physician and the patient that good results are obtained. We must remember that patients suffering with hyperacidity must be fed, and well fed. Too often they are underfed.

Recently the sodium chlorid content of the food in these dietaries has received considerable attention by dietitians. Laufer, Hayem, Ewald, Vincent and others have given experimental and clinical evidence that dechlorination is of great importance in reducing acidity.

Recently Richarts[3] strongly advocated the salt-free diet. He modified the salt-free regimen by emptying and washing out the stomach two and one-half hours after the chief meal. He also says that sodium phosphate or sodium bromid may be substituted for the chlorid in the food, at least to some extent.

From personal experience with a few patients on whom I carried out this method, I believe that the salt-free diet may be of great aid in the treatment of these cases.

The medicinal treatment must, in most cases, accompany all dietary treatment. This medicinal treatment in some cases is simple and in others more difficult. In those cases in which we have a straight chemical hyperacidity with no complications, such as hypersecretion, continued secretion or hyperesthesia, simple antacid treatment, with sodium bicarbonate and calcined magnesia, will often work wonders. I have the patients take this mixture only when the discomfort appears. Of late, I have used bismuth subcarbonate with the calcined magnesia in place of the sodium bicarbonate. My reason for this is that the action of the acid on sodium bicarbonate produces a large quantity of sodium chlorid which we wish to decrease.

In those cases complicated with hypersecretion, continued secretion or hyperesthesia, we must use the antacid treatment as before, but in addition to this, the use of oils, etc., as demulcents and the use of atropin or belladonna, anesthesin and bromids for their action on the gastric mucosa is recommended. In these cases when the stomach does not empty properly the use of Carlsbad salt before breakfast for flushing out the stomach and its action on the bowels should be used.

In 1908 Petri[4] found that hydrogen peroxid in rather large quantities (300 c.c. of 0.5 per cent. solution) on an empty stomach has a great power of lowering the acid content of the stomach. He recommended its use in hyperacidity.

Poly[5] of Würzburg in 1910 used hydrogen peroxid in forty cases of hyperacidity and recommends it highly. He recommends the large quantities used by Petri. It causes some nausea but reduces the acidity and the symptoms.

Hall[6] of Boston treated thirty patients and says that there is a lowered acidity, a gain in weight, and subsidence of the symptoms. He says that it is another aid to our treatment.

Winternitz[7] says that it reduces acidity, but not for long. He has discarded its use.

In 1909 I repeated Petri's work on normal stomachs and found his work true. I then tried the hydrogen peroxid in hyperacidity cases in order to test the following points:

First, What is the optimum concentration or dose to use? I found that small quantities, as 4 or 8 c.c., before meals, once or twice a day, had but little effect, the acidity being but slightly lowered. *Fifteen* c.c. began to have a decided effect on lowering the acidity, but the patients complain of nausea after taking this amount. I gradually increased the dose up to 50 c.c., which is Petri's amount. Petri's dose of 300 c.c. of 0.5 per cent. solution is decidedly unpleasant to the patient. Giving it in almond-water, as Poly suggested, lessens this trouble.

In the second place, I wished to determine whether the effect of the hydrogen peroxid was merely temporary or somewhat permanent. A patient was given a Boas-Ewald test breakfast and the total acidity, the free hydrochloric acid and the pepsin content determined. Before the evening meal 300 c.c. of a 0.5 per cent. solution was given the patient. The next morning a Boas-Ewald meal was given, using 300 c.c. of 0.5 per cent. peroxid instead of water. In nearly every case the free acid is greatly lowered, or even absent. The pepsin content suffers an almost parallel reduction. The patient was then given the peroxid before luncheon and before dinner. The next morning he was given the Boas-Ewald test breakfast with water. The free acid and pepsin content were generally normal or nearly so. This experiment was repeated many times and the results were always the same. From this experiment we learn that the action of the peroxid is only temporary and perhaps is effective only so long as it is in the stomach; in other words, its effect is purely local.

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[3] Richarts: Zur Frage der Chlorenziehung bei Hypersekretion des Magens, Deutsch. med. Wchnschr., 1912, xxxviii, 697.

[4] Petri: Ueber den Einfluss Wasserstoffsuperoxyds auf die Sekretion des Magens, Arch. f. Verdauungskr., 1908, xiv, 479.

[5] Poly: Klinische und Experimentelle Erfahrungen über den Einfluss des Wasserstoffsuperoxyds auf Hyperchlorhydrien und auf die Magensekretion, Arch. f. Verdauungskr., 1910, xvi, 700.

[6] Hall, G. W.: The Treatment of Gastric Hyperacidity with Hydrogen Dioxide, Boston Med. and Surg. Jour., June 15, 1911, p. 846.

[7] Winternitz: Zur medikamentösen Therapie der Hyperazidität insbesonders über die Anwendung des Wasserstoffsuperoxyds, Deutsch. med. Wchnschr., 1911, xxxvii, 1390.

In the third place I tried to determine whether or not large doses of hydrogen peroxid might be injurious to the gastric mucosa when 300 c.c. of a 0.5 per cent. solution of peroxid is given for a long period of time. Large amounts of mucus are nearly always found in the stomach content when such large quantities of peroxid are given. This fact, together with the marked decrease or total absence of the free acid and pepsin, makes one think of the findings in atrophic gastritis. It might be possible for real injury to be produced by a long-continued use of such a substance. I carried out a number of experiments by giving the peroxid for some weeks. In two cases I continued the treatment for four weeks. In these persons it took days for the content to come back to the normal when the peroxid was discontinued. When it was given for only a day or two the return to normal was prompt. It is possible that a longer use would do lasting damage.

On account of the large amount of the peroxid required and its temporary effect, together with the unpleasant effect on the patient and the possibility of doing harm by a long-continued use, I have discarded its use as a therapeutic agent in hyperacidity.

Physical therapy, such as gastric lavage, is important. I am firmly convinced that washing out the stomach is of distinct value as an aid to the diet and the medicinal treatment in severe cases.

Of another form of physical therapy in hyperacidity, namely, exercise, I cannot speak too highly. I mean by this a graded, systematic course of exercise under the direct charge of the physician. Many of these patients come to us underfed, weak, nervous and flabby-muscled. They cannot do their daily task without almost complete exhaustion. Some other patients come to us fat, rotund, good livers and short of breath.

Both of these classes need a systematic course of exercise. These exercises harden muscles, improve the circulation, increase the appetite, and, in fact, often work wonders with our cases of hyperacidity.

These exercises properly given in the morning and in the evening before bedtime tend to employ the stomach, and thus a possible chemical irritation is removed.

The treatment of hyperacidity is a combination of diet, medicine and physical therapy. In most cases not one alone will do the work, but a painstaking, wise physician using all three equally, or emphasizing now one, now the other, will obtain results; and that is what we are after.

1402 South Grand Avenue.

The Price of Community Health.—Better community health is an issue between money and morals, between dollars and men; not always clearly perceived, frequently imperfectly understood, but nevertheless, when brought down to the last analysis, we find it too often to be ignorance and greed against health and intelligence. We know now that health is a purchasable commodity. We can prevent disease if we are willing to pay the price. Clean water, clean milk, clean streets, clean houses, clean schools, clean churches and clean people may all be had if the price is paid. It is to-day entirely up to the community whether it wishes to be clean and healthy or filthy and diseased. The method by which such rights can be secured is neither difficult nor obscure. The steps are simple and are applicable by the average layman or the village physician to the smallest village or rural community.—Eugene H. Porter, M.D., *Month. Bull. New York State Dept. Health.*

PRESENCE OF DIALYZABLE PRODUCTS REACTING TO ABDERHALDEN'S NINHYDRIN IN THE URINE OF PREGNANT WOMEN

A PRELIMINARY REPORT*

LOUIS M. WARFIELD, M.D.
MILWAUKEE, WIS.

In 1912 Abderhalden published results of experiments tending to show that in the blood-serum of pregnant animals and women there was a ferment which in the presence of specific placental tissue had the property of digesting the placental albumin. The products of this proteolytic digestion could be dialyzed through parchment and recognized by delicate tests for peptones and amino-acids. He used a substance, triketohydrindenhydrate, sold under the name of "ninhydrin," which enabled him to find not only peptones but also amino-acids. His work was taken up by observers especially in Germany and America. Many confirmatory results have been obtained as well as some results distinctly unfavorable.

In a series of cases at the Milwaukee County Hospital, our results were very contradictory. It occurred to us that if there were a specific ferment in the blood-serum which was elaborated to split up the products derived from the placenta, syncytium especially, there should be also in the blood-waste, products of the metabolic activity of the growing fetus. These substances had to leave the body by some route and the most logical route was the urinary excretion. These products should be peptones and amino-acids, they should dialyze out and one should then be able to find them by means of the ninhydrin reaction in the dialysate. It was found that actually such is the case. At first urine and pieces of boiled placenta were placed in one dialyzer, and urine alone in a second dialyzer. No difference was noted in the color reaction obtained with ninhydrin. Boiling the urine made no difference. Urine containing more than a trace of albumin boiled and filtered to clear of albumin and placed in the dialyzer showed in the reaction of the dialysate to ninhydrin no difference from the untreated specimen of urine.

The extreme difficulty of obtaining material enables me to report only seventeen cases; four were tested twice. Among these are two particularly suggestive cases, Nos. 4 and 13 in Table 1.

TABLE 1.—URINES, PREGNANCY

No.	Reaction	Albumin	Ninhydrin	Months Pregnant	Remarks
1	*	—	++++	9	
2	*	—	++++	4½	
3	*	—	++++	6	
4	*	—	+	5⅓	Toxemia
	†	±	++	5¾	Well
5	*	—	+	7	Mild toxemia
6	*	—	++++	7	
7	*	±	—	2	
8	*	—	++++	8	
9	*	—	++++	8½	
10	*	—	+++	4	
11	*	+	++++	8	
	*	—	++++	8½	
12	*	—	+++	7½	
13	*	—	+	9	Headache
	*	—	++++	9	No headache
	*	±	++++	9	Feet swollen
14	*	—	++++	8	
15	*	—	++++	8	
16	*	±	+++	6	
17	*	—	++++	7	

* Acid. † Alkaline. + Present. — Absent. ± Trace.

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* From the Medical Clinic and Laboratory of the Milwaukee County Hospital.

The first patient for five and a half months had shown a normal course. She suddenly developed headache, and the blood-pressure (systolic) was 160 mm. The dialysate tested with ninhydrin showed only a faint blue color. Eight days later she was quite well, blood-pressure 140 mm., and her physician obtained for me a second specimen. The dialysate showed a distinct increase in color and presumably an increase in the quantity of dialyzable proteolytic cleavage products. The other patient was about at term when she entered the hospital. One day there was a slight headache. The blood-pressure was 175 systolic, 120 diastolic. The ninhydrin reaction was slight. Three days later she was feeling quite well and the reaction was intense blue. The blood-pressure was the same. This suggests at once the possibility of forestalling toxemia of pregnancy by the test, and apparently suggests the retention of some fetal products due possibly to a temporary functional incapacity of the kidneys. As will be seen from Table 1, every case of pregnancy showed the presence of dialyzable substances in the urine except one. The pregnancy here was of only two months' duration. At four and a half months the reaction with ninhydrin gives an intense blue color. In order to show that in normal urine there are no dialyzable substances which give a positive test with ninhydrin, a number of urines from healthy persons were tested. These gave no color reaction. Solutions of urea were made and dialyzed. The dialysate in these cases showed no reaction.

In a few cases (all the material available) an attempt was made to determine for how long a time the urine contained these substances. In the involution of the uterus it is possible that waste protein cleavage-products are excreted by the body.

TABLE 2.—URINES, PUERPERIUM

No.	Reaction	Albumin	Ninhydrin	Days after Delivery
1	*	±	—	11
2	*	—	+	14
3	*	—		
	*	+	+++	8
			+	13
4	*	+	+	13
	*	±	—	16
5	*	±	—	16
	*	—	—	27
6	*	±	+	4
	*	—	—	16
7	*	±	+	5
	*	+	+	17

* Acid. + Present. — Absent. ± Trace.

Table 2 shows that the eleventh day was the earliest to show a negative reaction, while one still showed a faint reaction on the seventeenth day.

The material available to me is so scanty that this is put forth as a suggestive lead for large obstetric clinics to follow.

A SERUM REACTION AS AN AID IN THE DIAGNOSIS OF CANCER

OTTO LOWY, M.D.
Serologist for Beth Israel Hospital
NEWARK, N. J.

The discovery by Abderhalden of the presence of proteolytic ferments in the serum of pregnant women and his conclusion that it might be possible to find similar ferments in the serums of persons suffering from other conditions actuated me to look for a specific ferment in the serum of cancer patients.

The principle of the test is that of Abderhalden's test for pregnancy. The reaction depends on the presence of a specific ferment which has the power of digesting its corresponding albumin. In my experiments I use Schleich and Schnell diffusion thimbles No. 579, which have been tested for their permeability to peptones and impermeability to colloids, using only those permitting peptone and not colloids to pass. The cancer albumin is obtained by cutting up pieces of carcinoma of the breast and boiling them for half an hour, after which they are put into chloroform-water and kept on ice.

A small piece of the prepared cancer albumin is added to the dialyzing thimble with 2 c.c. of suspected serum. The thimble is then put into a glass cylinder containing about 10 c.c. of sterile distilled water. Thimble 2 contains serum alone and Thimble 3 contains cancer albumin and distilled water. Both these thimbles are put into cylinders with distilled water, same as No. 1. All of the serums, as well as the water surrounding them, are then covered with a layer of toluol and incubated for sixteen hours, at the end of which time 5 c.c. of distilled water of each cylinder is tested with ninhydrin for the presence of peptone, by boiling in a water bath for ten minutes.

If the tested serum be that of a cancer patient, Cylinder 1 will assume a deep violet color. Cylinders 2 and 3 should remain colorless. Should there be discoloration in Cylinders 2 and 3, the reaction must be discarded, as the serum was probably contaminated by bacteria, contained hemoglobin or amido-acids. If the serum is negative the water in all three cylinders should remain colorless.

If the reaction is positive, Tube 1 is retested against fresh serum, or if the test is negative, a retest is made against peptone, for the purpose of insuring against defective thimbles.

The blood used must be chemically as well as bacteriologically clean. About 10 c.c. of blood are required and should be obtained from one of the veins of the elbow in the same manner as for the Wassermann test. After obtaining the blood, great care must be used not to shake the vial containing it, as shaking is apt to dissolve some of the hemoglobin, and the presence of hemoglobin in the serum invalidates the test. Blood more than twenty-four hours old, or taken after meals, cannot be used for the test.

Through the kindness of Drs. E. J. Ill, George N. Waite, L. L. Davidson, E. Mautner, I. Gluckman and others I have been able to examine the serums of sixty-one cases, consisting of the following: 19 cases of carcinoma, 7 of diabetes, 7 of syphilis, 4 of ulcer of the stomach, 2 of pregnancy, 1 of extra-uterine pregnancy, 1 of furunculosis, 2 of fibroids, 1 of lipoma, 1 of chronic appendicitis, 1 of cholecystitis, 3 of carcinoma (postoperative) and five other cases the results of which were confusing owing to the age of the serum. All of the cancer cases gave a positive reaction. The three postoperative cases in which the patients operated on two, four and five years ago, and that do not now give any clinical symptoms of recurrence, gave negative reactions. In this connection it is interesting to note that one of these patients was operated on by Dr. George N. Waite five years ago for carcinoma of the breast. The patient was again operated on two weeks ago for an extra-uterine pregnancy. In my examination the serum gave a positive reaction for pregnancy and negative for cancer. In two cases of cancer of the breast, in one of which the patient was operated on two and the other nine months ago, the reaction was still positive.

All the other cases gave negative reactions with the exceptions of the benign tumor of the breast, one case of fibroid and one case of diabetes. I believe that the erroneous findings in these cases were due to faulty technic which I am now trying to eliminate.

All cases of carcinoma examined were cases in which clinical and microscopic evidence of malignancy were present.

In view of these findings the following questions present themselves:

1. Is the reaction present in all cases of carcinoma?
2. What other, if any, conditions will give positive reactions?
3. How early will this test give a positive reaction?
4. How soon does the reaction disappear after the operation?
5. Will reappearance of the reaction after operation mean recurrence?
6. Will persistence of the reaction after operation have any bearing on the prognosis?
7. Will this reaction prove a precancerous stage?

In conclusion I wish to say that even with this limited number of tests and in their primitive state, I have found a proteolytic ferment in the blood of cancer patients. Whether or not this ferment is specific and constant I am unable to say at this time. Nevertheless, an analysis of some of my cases shows that in at least three undoubted cases of cancer in which the patients were operated on the reactions were negative after a lapse of years, which would indicate that with the removal of the growth the specific ferment is not needed in the blood and disappears. Two other cases which still give positive reactions are of no significance at this time as not all the cancer tissue may have been removed by operation, or time enough may not have elapsed for the ferment to disappear.

I think that we would be justified in using this test for obscure stomach cases, and if the test should prove of specific value periodic examination of women approaching the menopause would be the means of saving the lives of untold women.

549 High Street.

INVESTIGATION OF THE PREVALENCE OF MALARIAL FEVERS IN THE UNITED STATES BY THE UNITED STATES PUBLIC HEALTH SERVICE

R. H. VON EZDORF, M.D.
Surgeon, U. S. Public Health Service
MOBILE, ALA.

Under orders of the Surgeon-General of the United States Public Health Service, dated Feb. 28, 1912, I was directed to make a study of the prevalence of malarial fevers in the state of Alabama; and July 8, 1913, the states of Arkansas, Mississippi, Georgia, Florida, South Carolina and later North Carolina were included in this work. A visit was made to the officers of the boards of health of all the states in which the studies were to be made, and their cooperation was obtained.

The work outlined in the first order Feb. 28, 1912, covered the following points:

1. The localities in which malarial fever is endemic.
2. The relative prevalence of the disease in the various localities.
3. The types of malarial infection present in the several localities.
4. The distribution of anopheline mosquitoes.
5. The relative prevalence of mosquitoes in the several localities, with special reference to the anophelines.

This work of investigation was pursued according to the following methods:

I. STATISTICAL INVESTIGATION

Circular postal cards with attached reply cards were sent out to all physicians in the states of Alabama, Arkansas, Florida, Georgia, Mississippi and South Carolina, calling for information for the months of August, September and October, 1913, which was to bear mainly on the morbidity of the disease, the species of mosquitoes, their breeding-places, and the prophylatic measures adopted in each place. The replies received have been filed according to counties. These are now being tabulated and will form part of a report. This work of securing information will be continued during the coming year, with a view to obtaining not only the geographic distribution and prevalence of the disease, but also its seasonal prevalence, and will eventually be made to cover the entire United States.

A number of letters were received from physicians which gave more detailed information than the postal card called for, and many letters were received asking for general information on the subject of malaria.

The tabulations will show in each county for each month: the number of physicians reporting; number of towns, cities or places represented; number of patients, by color, treated for malaria; types of infection; types confirmed microscopically; number of physicians using the microscope; number of cases occurring in children under the age of 15; number of chronic cases; presence of mosquitoes and the species, and prophylactic measures adopted.

II. TYPES OF MALARIAL INFECTION

In order to ascertain definitely the types of malaria, it was determined to make blood examinations from both active and chronic cases. A circular letter was addressed to a number of physicians in each county in the state of Alabama (Mobile County excepted), requesting them to send blood-smears from active and chronic cases, and stating that slides, slide-boxes, history blanks calling for names, age, sex, color, nativity, address, length of residence, previous history of malaria, remarks and date, and franks for returning such slides and information, would be furnished. The foregoing material and a letter of instruction for making thin and thick blood-smears was sent to those physicians who replied favorably.

Accordingly, it was expected that blood-smears from every county in the state would be obtained; but comparatively few physicians responded, and only eleven counties of the sixty-six have been heard from. Those physicians who sent in specimens were immediately informed of the result of the examination. Tertian and estivo-autumnal types were confirmed, and not a single quartan specimen was submitted.

III. DISTRIBUTION OF ANOPHELES MOSQUITOES

Physicians in every county in Alabama were asked by circular letter to send in specimens of mosquitoes, particularly anopheles, in vials and mailing cases which, with franks for return, were furnished.

The specimens submitted were of *Culex, Aëdes calopus, Anopheles quadrimaculatus, A. punctipennis, A. crucians, Megarrhinus rutilus,* Coq. (classified by Dr. L. O. Howard, Chief of the Bureau of Entomology, Department of Agriculture), and *Psorophora ciliata.*

IV. SURVEYS AND MALARIAL INDEX

Surveys this year were made in selected localities in Arkansas, Alabama and North Carolina, and a malarial index was made by the collection of blood specimens from all persons who submitted themselves for examination. The surveys included a study of the geographic and climatic conditions of the locality, the social, hygienic and economic conditions of the community and the industries. The breeding-places of the anopheles were searched for and their breeding conditions were studied. The health officer and officials were informed of the findings in each place visited, and measures for the eradication of the breeding-places were advised. Some interesting observations were made, particularly of the fact that the mosquitoes did not breed in ditches where waste, such as dye-water or coal-gas water was discharged, and that such discharges might be diverted to the advantage of other places in which mosquitoes were breeding.

The importance of making malaria surveys is becoming of interest to the public, especially in places where large industries are impounding water for power and for purposes of public supply. On this account, condemnation proceedings and suits for damages are being filed in the courts, and when the reasons for legal action have been sought, those who bring suit have usually been found to be ignorant of the method of transmission of the disease; while the breeding-places of anopheles are ordinarily to be found within a short distance of the homes. Particularly is this true in rural districts. The impounded waters are, as a rule, free from breeding mosquitoes, but occasionally a small breeding-place, which might serve as a constant source of supply of mosquitoes, may be found on the banks. These are, generally, far removed from any homes. In some instances, undoubtedly, the impounding of waters has been beneficial.

MALARIAL INDEX

Blood-smears were obtained from 3,602 persons living in seven places in North Carolina. Three hundred and thirty-eight of these were secured through the assistance of Drs. Pridgen, Leonard and Maynard, at Knott's Island; 802 from five places in Arkansas, 52 of them through the assistance of Dr. H. K. Thibault at Scott, and 664 from four places in Alabama, the total being 5,068. There were also 67 obtained with the assistance of Dr. Boyd, city health officer at Columbia, South Carolina.

One thick and one thin blood-smear was made and a history was obtained from each person examined. The blood-smears were inspected to determine the presence of the parasite, the type of infection, the blood changes which might be attributable to malarial infection, such as leukopenia, the presence of pigment normoblasts, increase of mononuclear leukocytes and poikilocytosis. Any other blood changes were noted, as eosinophilia, and other types of infection such as are shown by the presence of filaria or *Spirochaeta obermeieri.* The technic employed has been greatly simplified for expeditious work, and has been described and submitted for publication in the Public Health Reports.

V. EDUCATIONAL WORK

Under the auspices of the state boards of health, arrangements were made for delivering public addresses and lectures at schools on the subject of malarial fevers, their method of spread and prevention. Lantern-slides were sometimes used. Specimens of larvae and pupae collected in the locality were exhibited to show the different species and demonstrations were given to show how anopheles may be identified. The local conditions were invariably discussed. In several places in North Carolina classes of schoolchildren of the higher grades were taken out on a search for mosquito breeding-places and taught to distinguish the anopheles larvae. In one place these pupils were required to write a composition on the subject of mosquitoes, their characteristics in different stages of development, and the identification of the anopheles.

The Public Health Service is preparing exhibits on the subject of mosquitoes and malaria to be used in these lectures, and photographs are being made and collected which will be reproduced in lantern-slides.

VI. COMMUNITY ANTIMALARIAL WORK

The application of different methods to be adopted were discussed during the lectures, with special reference to local conditions. Drainage, screening and the use of quinin were advised, and the practical and economic benefits to be derived were set forth and illustrated by examples derived from the adoption of these measures in different portions of this country.

The greatest difficulty lies in the question of cost and funds. On this account the service is enlarging the staff of workers in order that proper measures and estimates may be submitted for consideration, when a community desires to undertake the work of control or eradication. The supervision of such work, would, of course, be undertaken only in cooperation with the state boards of health. There are now two communities in North Carolina which are planning to do this work under the direction of the state board of health.

VII. PERSONNEL

An office and laboratory have been established at Mobile, Alabama, where this work is being conducted. The personnel comprises one surgeon, one assistant surgeon, two technical assistants, one biologist and two clerks. Similar work is being conducted for the state of Louisiana at New Orleans, under the direction of Surgeon J. H. White and one assistant surgeon.

Senior Surgeon H. R. Carter of Baltimore, Maryland, has also been engaged in making surveys in North Carolina, and is devoting much time to this subject.

Egyptian Medicine.—Herodotus declares Egypt to be the healthiest of countries, but filled with physicians of whom "one treats only the diseases of the eye, another those of the head, the teeth, the abdomen or the internal organs." Diodorus says that Egyptian physicians looked on excessive consumption of food as the main cause of disease, cured chiefly through fasting, emetics and purgatives and were under obligation to treat soldiers and travelers without fee. The same author remarks that the unsuccessful issue of a course of treatment conducted on recognized and prescribed lines was not to be laid to the blame of the physicians, whereas independent procedure, going outside the bounds of tradition, carried the death penalty with it, in case of a fatal result. According to Clement of Alexandria, the medical science of the Egyptians was contained in the forty-two Hermetic books whose authorship is ascribed to the god Thot (Hermes of the Greeks).—Neuberger, History of Medicine.

VALUE OF ROENTGEN ANALYSIS OF GASTRO-INTESTINAL TRACT IN SOME TYPES OF SO-CALLED FUNCTIONAL NERVOUS DISORDERS

A PRELIMINARY REPORT *

L. PIERCE CLARK, M.D.
AND
ARCHIBALD H. BUSBY, M.D.
NEW YORK

We have limited the type of cases to that of genuine epilepsy solely in order that the nervous type of disorder under study may be exact and without question. Exact analysis of the digestion of the epileptic has been attempted for years. It matters little, as to the importance of such study, whether one holds that the defective digestion in epilepsy is a result or a cause of the nervous disorder. Definite knowledge of whatever defect in digestion obtains in an epileptic is worthy of our best efforts. Any method of investigation which will throw light on the subject, therefore, should be welcomed.

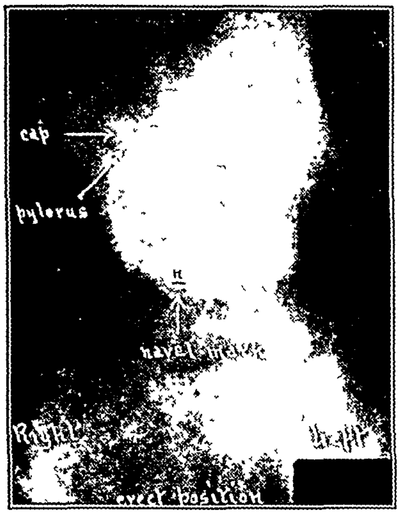

Fig 1.—One type of normal position of stomach—erect.

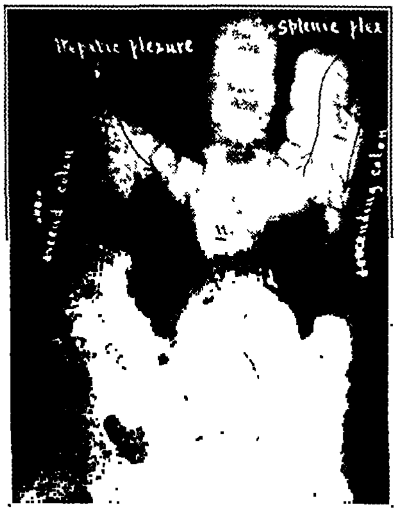

Fig. 2.—One type of normal position of colon

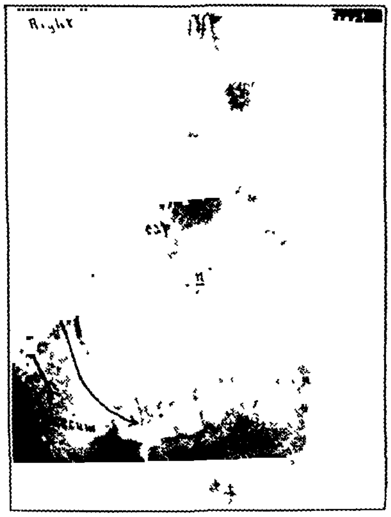

Fig. 3.—Case 2. Gastroptosis with ptosis of hepatic flexure and transverse colon.

For many years it has been supposed that constipation, intestinal catarrh and any of the many forms of mucomembranous colitis found in epileptics were due to a secretory defect of some kind, or that there was an inherent defect in peristalsis; but only recently have genuine attempts been made to analyze precisely by means of the Roentgen ray some of the mechanical or dynamic gastro-intestinal defects in epileptics. Here and there one finds a case so analyzed treated surgically with varying results reported. At the outset we wish to disclaim that we have approached our subject with any particular bias as to curing the patient of epilepsy. The analysis was not undertaken with the idea of deciding whether or not a surgical cure of the intestinal defect and even the epilepsy itself could be accomplished, but the study was made solely to determine what mechanical defects obtain in fairly classic cases of epileptics suffering from long-standing and obscure indigestion.

It is common knowledge that many have striven to translate supposed mechanical defects in the gastro-intestinal tube into terms of so-called intestinal auto-intoxication. The authors of such attempts deal with theories solely, assume chemical interpretations of metabolism which have little or no clinical proof, or push their deductions to unwarrantable conclusions. It would seem reasonable that by means of the Roentgen ray one might determine the points or parts most affected in the gastro-intestinal tract, follow this determination by dietetic, hygienic and other special medicaments of massage, electricity and like remedies, and overcome the defective state of digestion of epileptics, thus bettering their general health and perhaps modifying favorably the course of the convulsive disorder itself. Subsequent Roentgen analysis in the individual case might prove exactly what had taken place by such treatment. Even though physical and hygienic measures of treatment be found inefficacious, such a system of study and therapy might still find legitimate use in conservative practice until one determined on more drastic surgical relief.

With the foregoing view in mind, one of us (Clark) proposed a Roentgen analysis of a small but select material to determine the value of the procedure for diagnostic and therapeutic purposes. Ten cases were therefore selected from private practice in which the epileptic convulsions seemed most dependent on or bore some relation to a digestive disorder. In all, the premonitory symptoms of extreme constipation, furred tongue, headache, malaise, gaseous fermentation in stomach and intestines and mucous and membranous discharges from the bowels had been chronic before attacks, and in many cases existed more or less throughout the interparoxysmal state. Both sexes, of ages varying from 10 to 48 years, were under study.

TECHNIC

The examinations in this series of cases were made in the following manner: After fourteen hours of fasting, a meal was given the patient consisting of 2 ounces of bismuth subcarbonate in 12 ounces of buttermilk, and the stomach exposures were immediately made in both the prone and the erect positions. Nothing else was

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* Read at the Annual Meeting of the American Neurological Association, Washington, May 6, 1913.

taken by the stomach until the six-hour period was made for gastric retention. The patient was then allowed to take regular meals. At twenty-four hours, the examination was made also in the prone and erect positions, and later at forty-eight hours if possible. Most of these patients felt so miserable at the end of twenty-four hours that it was thought wise not to continue further. One of us (Busby) personally has taken large amounts of bismuth without feeling any ill effects.

The first consideration is, What is the normal appearance of the gastro-intestinal tract as revealed by roentgenoscopy? We must not be too willing to digress from the text-books, for they are the results of conclusive work made on the gastro-intestinal tract normal and *in situ*. One can readily understand that, in the erect position of man, the filled, functionating tract would by gravitation severely test the efficiency of this more or less poorly supported part of the body. Because the roentgenographic examinations show a greater number of variations than we have been cognizant of heretofore we must not infer that they are any the less abnormal. Mechanical difficulties are made possible and it is the active, functionating gastro-intestinal tract with which we have to deal.

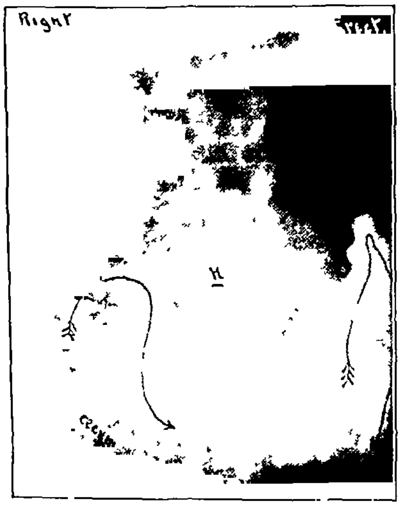

Fig. 4.—Case 4. Coloptosis.

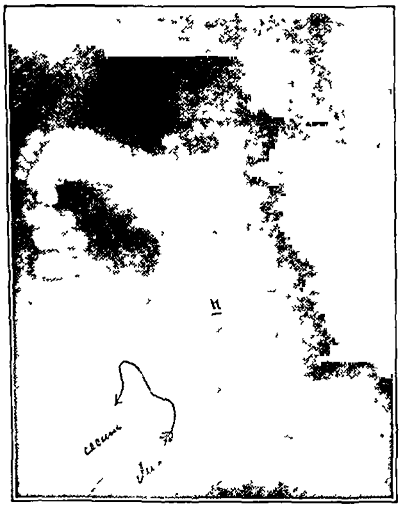

Fig. 5.—Case 6 Ileac stasis at twenty-four hours; prone.

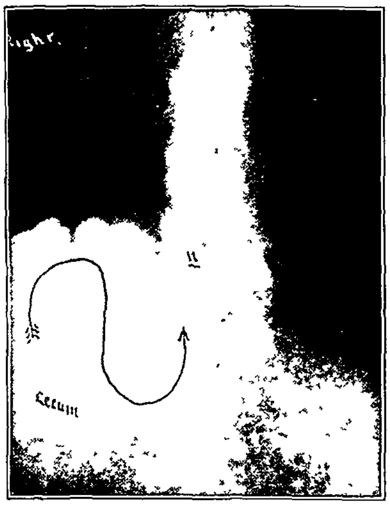

Fig 6—Case 7. Ptosis of hepatic flexure and ascending colon; twenty-four hours prone.

In regard to the weight of the bismuth given, 2 or 4 ounces would not be expected to make any material difference when one stops to consider the weight of an ordinary meal. The next consideration is, How many of the apparently normal cases which we examine for controls are really normal? For it is thought that many of these postural conditions date back many years, even so far as childhood, and exist for long periods before causing trouble. It is also perfectly true that some can exist indefinitely without causing symptoms that are diagnosable as a disease entity. Then again, congenital malformations may be found. Experience has taught us that a difference of from 2 to 3 inches may be allowed between the prone and erect positions.

Two roentgenograms, in which the stomach and colon appear to be as nearly the text-book type as possible, are given to contrast those in the other pathologic cases.[1] Figure 1 shows one type of normal stomach, erect position. In Figure 2 one type of normal colon is shown by injection.

The Roentgen findings in ten cases of epilepsy are as follows:

CASE 1.—G. R., female, single, aged 17, has had attacks for five and one-half years. Roentgenoscopy with the patient in the prone position reveals the stomach normal in size, position and outline with a plain pylorus and good cap; in the erect position a slight ptosis is revealed with the pylorus and cap hazy. Six hours later roentgenoscopy reveals considerable gastric retention with good cap. There are patches of bismuth in the small intestine with a larger quantity in the ileum and ascending colon. The cecum is very low. At the twenty-four-hour period, roentgenoscopy reveals the hepatic and splenic flexures in good position with a large amount of bismuth in the low cecum and in the ascending colon. Bismuth also appears in the sigmoid and rectum. At the twenty-four-hour interval roentgenoscopy in the erect position reveals a slight dropping of the flexures, not abnormal. There is some gas in each. The cecum is again seen very low.

Summary.—The stomach retention would appear to be the result of atonia rather than obstruction. Some ptosis is usually found with atonia. The low cecum which is apt to retain food for a long period may very possibly cause sigmoid interference when filled.

CASE 2.—A. D., female, single, aged 22, has had attacks for six and one-half years. Roentgenoscopy with the patient in the prone position reveals a large stomach moderately low and rather atonic in shape with a normal pylorus and large cap; the erect position shows better the atonic shape with a considerable gastroptosis (Fig. 3). At the seven-hour period roentgenoscopy shows no gastric retention. At the twenty-four-hour period roentgenoscopy reveals both flexures low with a low transverse colon and a distinct looping at the hepatic flexure.

Summary.—This case shows a marked gastroptosis. There is a coloptosis of moderate degree.

CASE 3.—J. L. D., male, married, aged 46, has had attacks for seven years. Roentgenoscopy with the patient in the prone position reveals the stomach negative in shape, size, and normal position. Six hours later roentgenoscopy shows no gastric retention. At the twenty-four-hour interval, roentgenoscopy reveals a low hepatic flexure with the transverse colon well within the pelvis. At the forty-eight-hour period the bismuth is shown still in the low hepatic flexure and transverse colon.

Summary—This case shows a ptosis of the hepatic flexure and transverse colon.

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[1] We should prefer to show each phase of the individual cases by illustration; but owing to limited space, only a few roentgenograms are given.

Case 4.—A. R., male, single, aged 37, has had attacks for three years. Roentgenoscopy with the patient in the prone position reveals a ptosis of moderate degree. The contour is negative except the pylorus, but other roentgenograms show that this is also negative; in the erect position there is a gastroptosis of marked degree. The stomach in this position gives evidence in its shape of being atonic. At the seven-hour period, roentgenoscopy reveals a slight gastric retention. Bismuth is seen in the ascending and transverse colon. At the twenty-four-hour interval bismuth appears in the entire colon and the flexures are in normal position. Roentgenoscopy in the erect position shows a marked coloptosis with the flexures very low (Fig. 4).

Summary.—This case demonstrates a marked visceroptosis.

Case 5.—W. M., male, single, aged 25, has had attacks for two and one-half years. Roentgenoscopy with the patient in the prone position reveals the stomach in normal position with negative pylorus and cap; the size is rather large and suggests atonia. Seven hours later there is a slight amount of gastric retention with bismuth in the ileum, ascending and transverse colon, and also a looping at the hepatic flexure. At the twenty-four-hour interval the entire colon is seen with more bismuth in the ascending portion. The ragged appearance at the hepatic flexure suggests adhesions. At the twenty-four-hour interval, roentgenoscopy in the erect position reveals a slight dropping of both the hepatic and splenic flexures. By rectal injection the splenic flexure is replaced in its normal position by the force of the injection and it also brings out the loop at the hepatic flexure with its ragged appearance.

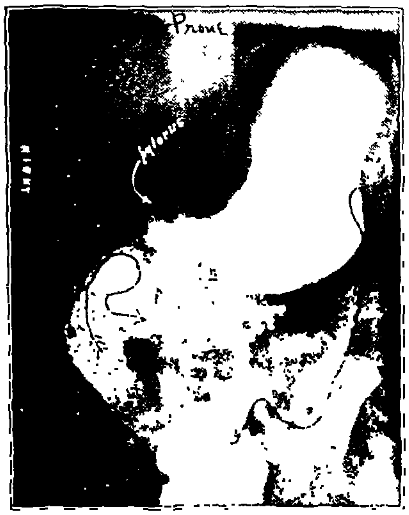

Fig. 7.—Case 8. Ptosis and looping of hepatic flexure. Ragged pylorus.

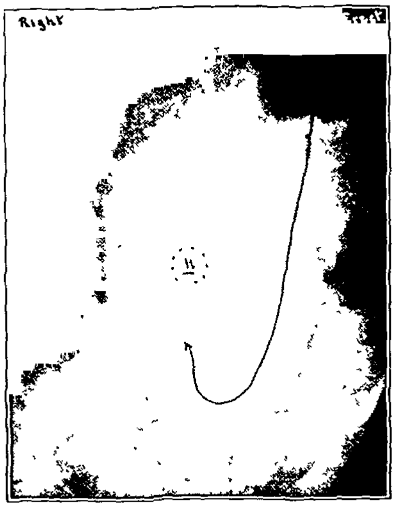

Fig. 8.—Case 9. Gastroptosis.

Summary.—This case shows slight gastric atonia with indications of trouble at the hepatic flexure. We also consider it a case of moderate coloptosis.

Case 6.—Mrs. D. M., married, aged 45, has had attacks for two years. Roentgenoscopy with the patient in the prone position reveals the stomach negative in shape, size and normal position; in the erect position a dropping which is hardly more than normal is revealed. Six hours later, roentgenoscopy reveals no gastric retention, with busmuth in the ascending and part of the descending colon. At the twenty-four-hour period, roentgenoscopy reveals decided ileac stasis which should never appear at this late period. Bismuth is shown in the ileum, ascending colon and part of the transverse colon (Fig. 5). At the forty-eight-hour interval a normal colon is seen with the exception of a long transverse portion. At the forty-eight-hour interval roentgenoscopy in the erect position reveals a dropping of the hepatic flexure and transverse colon with no apparent looping.

Summary.—This case shows a definite ileac stasis with a ptosis of the hepatic flexure.

Case 7.—Mrs. C. J., married, aged 48, has had attacks for ten years. Roentgenoscopy with the patient in the prone position reveals the stomach long, moderately low, a negative pylorus and a very high duodenum; in the erect position, this organ is converted into more of the water-trap variety; it is moderately low with the duodenum again remaining in the same high fixed position as in the prone position. Twenty-four hours later the prone position reveals the ascending colon ptosed on itself to such a degree that the hepatic flexure is in the pelvis. At the twenty-four-hour interval the erect position reveals the entire bismuth accumulated in this ptosed portion of the colon, showing well how a marked degree of stasis may occur here (Fig. 6). At the forty-eight-hour interval, roentgenoscopy reveals the colon attempting to straighten itself out. The cecum is *in situ*, but the entire ascending colon, hepatic flexure and part of the transverse colon are in the pelvis.

Summary.—This case shows possible gastric trouble with definite ptosis of the first half of the colon and a fairly high splenic flexure.

Case 8.—J. R., female, aged 10, has had attacks six and one-half years. Roentgenoscopy with the patient in the prone position reveals the stomach rather large for a child, and the pylorus is ragged in appearance, which may be due to thickening, spasm or adhesions. This peculiar pylorus is evident in all of the exposures made. There is a ptosis and looping at the hepatic flexures; in the erect position only a comparative dropping and the ragged pylorus are again evident (Fig. 7). Seven hours later, roentgenoscopy reveals a moderate amount of gastric retention, with bismuth in the ileum, ascending and transverse colon. At the twenty-four-hour interval bismuth is revealed in the ascending and transverse colon with a rather low hepatic flexure. The splenic flexure is situated well up as shown by gas. There is bismuth in the sigmoid and rectum. At the forty-eight-hour interval, roentgenoscopy reveals bismuth in the ascending and transverse colon with gas in the splenic flexure and also a large amount in the dilated sigmoid and rectum. This shows how the low transverse colon may cling on the high splenic flexure which here is filled with gas.

Summary.—The gastric retention rather suggests an obstructive interference of moderate degree on account of the peculiar pylorus. The position is good from a point of drainage. The pylorus can be watched in future examinations. The fact that the bismuth remains in the low ascending and transverse colon would suggest a valvular action in the high splenic flexure due to lack of muscular tone and dragging on this fixed point. The sigmoid and rectum show atonia and dilatation.

Case 9.—C. D., female, single, aged 25, has had attacks for eight years. Roentgenoscopy with the patient in the prone position reveals a moderate gastroptosis and a very large stomach, negative in outline; in the erect position, a marked gastroptosis is shown (Fig. 8). At the six-hour period there is no gastric retention. At the twenty-four-hour period roentgenoscopy in the prone position shows a marked coloptosis. At the twenty-four-hour period the erect position shows a marked coloptosis in which the colon and flexures appear to be within the pelvis.

Summary.—This case shows a marked gastroptosis and coloptosis.

Case 10.—H. V. L., male, single, aged 34, has had attacks for sixteen years. Roentgenoscopy with the patient in the prone position reveals the stomach situated high, horizontal and negative in outline and size; in the erect position, a negative stomach is revealed only relatively lower than in the prone position. At the six-hour period roentgenoscopy reveals no gastric retention in the prone position. At the twenty-four-hour period the colon is in normal position and the flexures well fixed. There is a large cecum, a narrowing of the ascending colon and a dilatation of the colon at the hepatic flexure. Roentgenoscopy in the erect position at the twenty-four-hour interval shows that the position of the colon is well maintained.

Summary.—This case shows a large cecum, a dilatation at the hepatic flexure and a narrowing of nearly the entire length of the ascending colon, which has every appearance of adhesion (Fig. 15).

From the foregoing study it is obvious that some form of abnormal position of the various parts of the gastro-intestinal tract is present in every case examined.

We are not in a position to explain the genesis of these defects, nor do we believe that the various theories advanced for their interpretation in the general field, exclusive of their presence in nervous subjects, are convincing, although those advanced by Hertz and Lane appear to be most plausible. We are certain, however, that it is the part of good internal medicine to reckon with the facts shown both in diagnosis and therapy.

In the several months' treatment subsequent to these roentgenoscopies, an intensive and more direct application of hygienic measures of massage and exercise therapy and other simple plans of treatment has been inaugurated to fit the special defect of each case, and marked physical and neurologic improvements have taken place not noted in a previous period without such therapy. To many internists and surgeons it may seem altogether unreasonable for us to expect that even an approximately normal digestion should obtain in such a case as that of Mrs. C. J., in whom the hepatic flexure is so greatly ptosed. Before our special treatment was undertaken in this case, however, natural movements of the bowels occurred but once a week, whereas now, after about three months' treatment, normal movements occur almost daily. After all, the functional test of digestive efficiency is the final proof. In the course of a year we hope to furnish Roentgen-ray controls, so that we may note whether or not the actual positions of the viscera have changed corresponding to the improved functioning already noted.

Our final conclusion is that Roentgen analysis of the defective digestive of epileptics is of both diagnostic and therapeutic value, and is an excellent supplement to the chemical and bacteriologic tests already in use, which form such a prominent part in any comprehensive hygienic plan of treatment in a stubborn nervous disorder of this kind.

84 East Fifty-Sixth Street—103 East Sixty-First Street.

Street Accidents in 1913.—The report of the National Highways Protective Association shows that during the month of December 25 persons were killed by automobiles in New York City. Of these 12 were children under 16 years of age. This makes a total of 302 killed by automobiles in this city in 1913, of which 149 were children. The number killed in 1912 was 221, of whom 103 were children. Six persons were killed last month by trolleys, against 13 for December, 1912, making a total of such accidents for the year of 106 as against 134 for 1912. In the state, outside the city, 9 persons were killed by automobiles during the month of December, 1913, as compared with 13 for 1912. This makes a total of 150 deaths by automobiles in the state, 79 by trolley and 32 by wagons, as compared with 127 by automobiles, 79 by trolleys and 28 by wagons for 1912. The National Highways Protective Association announces that it has started a campaign for the continuous enforcement, in a reasonable way, of the traffic ordinances.

POSSIBILITIES IN THE ROUTINE PRACTICE OF A SMALL HOSPITAL *

HERBERT C. COLE, M.D.
BOGALUSA, LA.

A small hospital, isolated by hundreds of miles from the great centers, will lend itself to modern, up-to-date routine practice, under properly applied technic and rigid discipline, if there is the ambition and the administrative faculty in control of the institution's activities. There need not be vast expenditure or elaborate equipment.

For many years the great manufacturing interests of our country have been perplexed in their efforts to operate profitably and at the same time conserve the combined interest of their stockholders and employees. During that time manufacturing enterprises throughout the country have destroyed thousands of human lives by not supplying adequate medical and surgical attention to their men. Formerly the sick and maimed were replaced with new human material while the disabled were turned loose, to be cared for by the state in which they lived, or migrated. As a result of these practices many thousands of useful persons have been incapacitated, a spirit of resentment for corporation employment has been engendered, dissatisfaction leading to dissension, strife and bloodshed has developed, and the progress of our natural resources dampened.

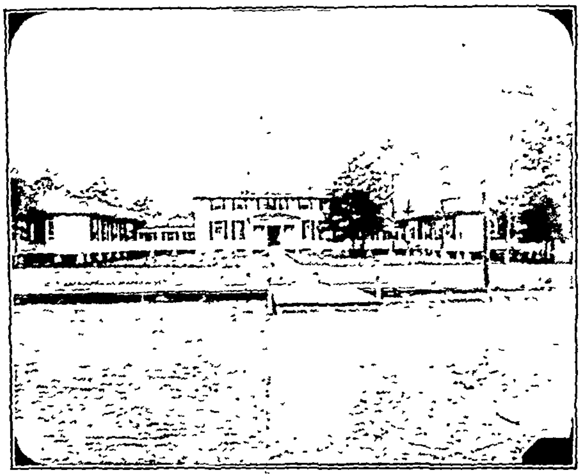

Fig. 1.—Front view of hospital.

Emanating from the ever-dominant principle of greatest utility to be derived from conservation of energy and material and the preservation of health and happiness, the great business interests operating through the Great Southern Lumber Company and the New Orleans Great Northern Railroad, two allied corporations operating in Louisiana, considered in their plans for economy the value of human life. From investigations into this item of their operating economy, and in justice to humanity, plans were evolved by which there could be furnished by mutual cooperation and without great expense or inconvenience, adequate medical and surgical protection to their employees.

For business enterprises of this kind to prosper it is essential that every economic problem be solved. It is obviously necessary for the health of the community to be preserved; it is imperative that epidemic outbreaks be quelled and the general health of the community kept at its highest standard. Without adequate facilities and competent services this is impossible. Appreciating these facts, the companies of which I speak, although isolated by hundreds of miles from the great centers, and in the midst of what was but a few years ago a vast pine forest, have erected a thoroughly modern hospital, equipped with every convenience and the equal of the better class of institutions of its kind in the cities. Under properly applied technic and rigid discipline, this hospital has loaned itself to an up-to-date routine practice such as you rarely see outside the great centers. As evidenced by the cost of construction and maintenance, there need not be vast expenditure or elaborate equipment. Constructed at an expense of $41,000, including equipment, and maintained at an annual expense of $30,000, including physicians', superintendent's and nurses' salaries, this institution furnishes protection for two allied corporations representing investments of over nineteen million dollars and numbering from eight to nine thousand employees. Isolated as it is by the geographical location of the natural resources which these corporations are developing, and in the midst of which the plant is established, it becomes necessary that adequate and efficient medical services be supplied.

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* Read in the Section on Hospitals of the American Medical Association, at the Sixty-Fourth Annual Session held at Minneapolis, June, 1913.

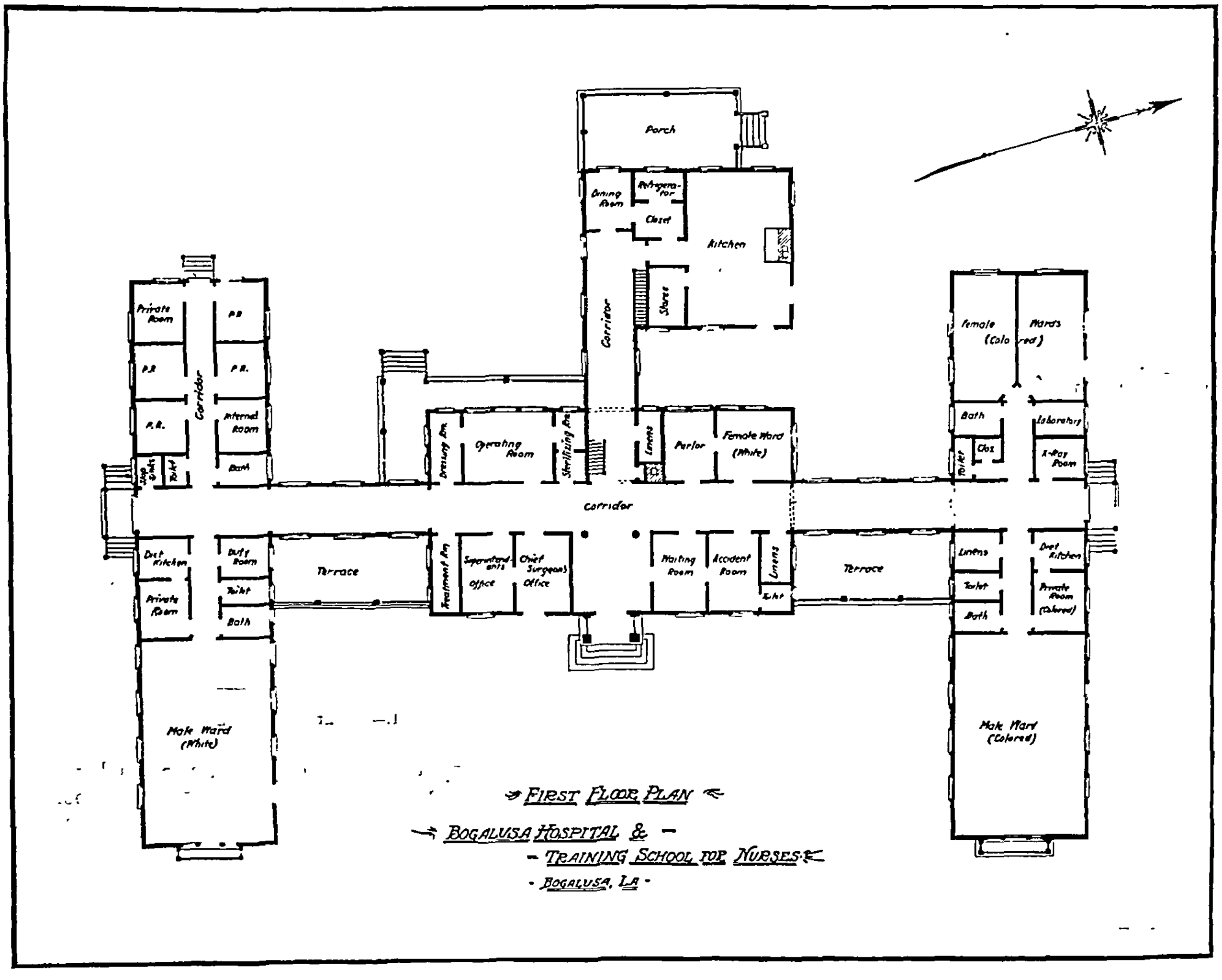

Fig. 2.—First floor plan.

While it is true that among some members of the medical profession there prevails a spirit against corporation employment of physicians, arguments to that effect having been advanced, yet I dare say that in the vast majority of such instances the argument was submitted without due appreciation of conditions as they are. It is a veritable fact that those who follow corporation employment, allowing for exceptions only in the case of officials and clerical employees, with a small percentage of the better class of laborer, are either financially unable to supply themselves with adequate medical and surgical protection, or do not pay for these without compulsion. Thus it is that in order for the health of such a community as this to be conserved and proper care taken of the sick and injured, it is absolutely necessary that something of a cooperative system be followed. Appreciating these facts, the great interests of which I speak evolved the following plan:

PLAN OF A HOSPITAL FOR FIFTY PATIENTS

A hospital designed to accommodate fifty patients was constructed according to the following scheme: A main building of two stories with two wings intersected by ells, the latter having one story each, and a third wing of one story extending backward from the main building. All sections are connected by means of hallways meeting at the main entrance, and all is under the same roof. In the main building, first floor, provision is made for white and colored people, separate waiting rooms, each opening into a large room arranged to meet the double requirements of clinic and consultation-room. Aside from this, we have rooms for the chief surgeon's private office, the superintendent's private office, and a treatment-room utilized also for operating-room. A main operating-room connects with a sterilizing-room, preparatory-room and instrument-room. In addition, this section also supplies space occupied by nurses' parlor and lecture-room, and a ward with three beds for white females. Each wing of the hospital leads from the main building and is occupied by a large hallway communicating with sun galleries on both sides. At the end each wing is crossed by the ells, which are occupied by hallways communicating on one end with a large ward of fifteen beds for white males, seven private rooms for white patients and accessory rooms utilized separately for record-room, diet-kitchen, bath-room, laboratories and house physician's room, with accessory bath and water-closet. The other end is divided into three wards, two for colored females, accommodating ten patients, and one large ward accommodating fifteen colored male patients, record-room, diet-kitchen, water-closet and bath, same as other side, but in addition one private room for colored patients requiring isolation. On this end, also, we have the Roentgen-ray and electrical department and laboratories for clinical microscopy and pathology.

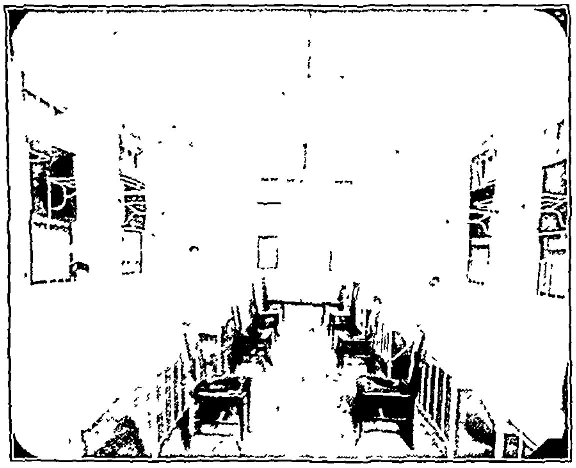

Fig. 3.—White male ward.

Extending back of the main building we have space for kitchens, pantries, store-rooms and dining-room for house physician, superintendent and nurses, and one additional for the servants. This section, like those previously described, communicates with the main building by means of a large hallway.

Upstairs over the main building, is utilized for superintendent's apartments and nurses' home. Accompanying are illustrations of the hospital and a plan of its general arrangement.

SYSTEM OF MANAGEMENT

Having given you an idea of our general equipment with its convenience, let me now briefly discuss our general system of management.

Relation of Physician to Patient.—The medical staff is composed of four doctors, all trained according to present standards, who rank according to the following order: a chief surgeon, a first assistant surgeon and a house physician. The duties of each as outlined in routine practice of the institution are as follows: Regular hours of service at the hospital are observed and arrangements are such that at no time, day or night, is the hospital without a doctor. Office hours are from 8 a. m. to 8 p. m., arranged so that each doctor fills an hour in the morning and an hour during the afternoon or evening. During each doctor's office hour he is responsible for the affairs of the institution. Patients reporting for attention are taken privately into the consultation-room and given whatever medical or surgical attention is necessary. Rigid rules are followed in giving each patient a routine physical examination and prescribing for or admitting the patient according to the exigencies of the case. Patients admitted, whether medical, surgical, obstetric, or whatever the condition may be, are in the exclusive charge of the physician in attendance, and he is directly responsible to the patient, on the one hand, for prompt and efficient service, and to the hospital and indirectly to the companies on the other, for the result.

Each physician is responsible also for the entire duties incident to caring for the patient and must attend to those features of treatment which fall outside the nurses' duties. In addition to these things each physician is responsible for whatever laboratory or pathologic work may be required, such as taking and examining throat cultures, blood specimens, feces and urine analysis. By this system we eliminate the necessity for intern and clinical microscopist, thereby saving quite an item in expense.

Members of the Staff.—Just as in all systematized business concerns a chief is essential, so it is with a properly managed hospital. Our chief surgeon, though relegating to each member of the staff his duties and granting that so far as the physician and patient are concerned whatever the physician does, within reasonable limits, is supreme, still he retains the position in act and deed of supreme medical director to whom all affairs of the medical department are entrusted, and he is directly responsible to the companies for the entire affairs of the institution. We therefore have all members of the staff proceeding in pursuance of their duties unmolested, yet responsible to the chief surgeon. This enables us to conduct a rigidly disciplined staff, all working in harmony together.

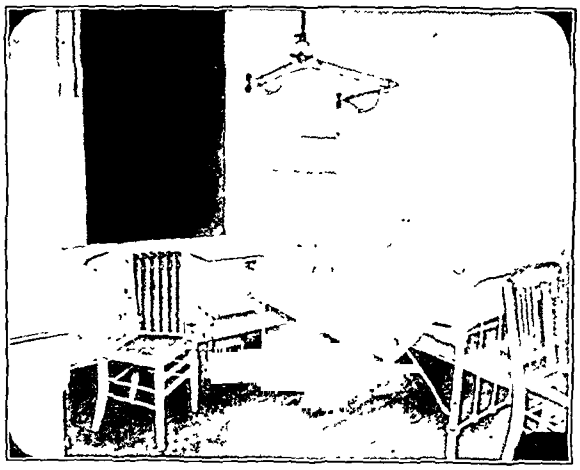

Fig. 4.—Private room.

As it is with the medical staff, so it is with the training-school for nurses. The superintendent of nurses has surveillance over the night superior, the operating-room nurse, and all the student nurses; yet she is herself responsible to the chief surgeon. The plan followed in conducting the training-school deserves no comment other than that a scheduled course of lectures with required collateral study is submitted by the superintendent, and each member of the medical staff, together with the superintendent, lectures regularly on their respective subjects. The term of training is two years. I might further add that our training-school, in addition to offering an opportunity for ambitious girls to take up a profession, also enables us to maintain a full corps of nurses at a minimum expense. Each nurse, in addition to her training, board, lodging and laundry, receives an incidental expense allowance of six and eight dollars per month during the time of service of her junior and senior years, respectively.

Aside from the hospital proper, but under the direction of the chief surgeon, we have stationed at two separate logging camps, at distances of 12 and 25 miles, respectively, a physician whose duty it is to look after the sanitary conditions of the camps, and render medical attention to the employees, and first aid to the injured. In cases of serious accidents he is required to bring in the injured on a special train in order that the necessary attention may be promptly administered.

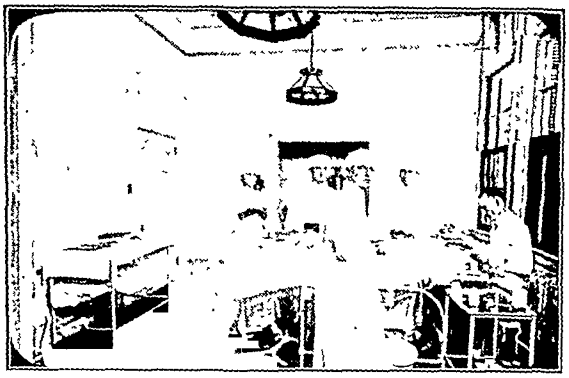

Fig. 5.—Operating room.

DETAILS OF WORK

Having given a general survey of our work, let me now go more into detail with reference to the work we are doing. Our surgical work is taken up according to the following plan: All major work of high grade is taken on Tuesdays, Thursdays and Fridays during the morning. The work is done by the operator assisted by a first and second medical assistant, and the operating-room nurse, the latter handling instruments; in addition there is an anesthetist, usually the house physician, except when he is the operator, in which case the usual second assistant gives the anesthetic. No other regular operating days are observed, all the major surgery of smaller purport and minor cases being done on any afternoon of the week, except Sundays.

We handle all the work regardless of character, except diseases of the eye requiring a specialist and part of our Roentgen-ray work. We have two visiting specialists, one on diseases of the eye, the other on roentgenology, who pay two visits to our hospital each month.

During the year 1912 there were admitted to the hospital 920 patients. Of this number 873 were discharged cured, improved or stationary, 27 were still in the hospital, and 20 died, giving a death-rate of a fraction over 2 per cent. The house visits totaled 13,255, and the office consultations and treatments were 15,138; 1,346 accident cases received attention; 284 surgical operations were performed. Of these 188 were in general surgery and 96 gynecology. Two nurses were graduated from the training-school.

The next point of interest is the hospital maintenance, the source from which comes our revenue. From the first earned wages of each employee each month a certain deduction is made for the hospital fund. For the married man, regardless of size of his family, a deduction of ninety cents is made; for each single man a deduction of seventy cents. This goes into the hospital fund from which all expenses are paid. In return for the deductions the hospital is maintained, medical and surgical services of six physicians supplied, and care given in the hospital for operation or treatment without further charges. Every feature of medical protection is at each employee's command day or night and the hospital is open at all times for any emergency that might arise.

Extra charges are made only for obstetric and venereal work, and then only a nominal fee.

During 1912 our net receipts totaled $30,501.73. Of this the following distribution was made:

Salaries	$18,894.98
Supplies	7,260.37
Other charges	4,346.38

We gained during the year $1.150.69, which, added to what we have gained so far this year, enables us, without inconvenience, to construct and allow for alterations in the main building leading to the establishment of a children's department.

Thus we see the possibilities in the routine practice of a small hospital without vast expenditure or elaborate equipment, and the vast good accruing from such a system.

BRAIN ABSCESS CAUSED BY FUSIFORM BACILLI *

GEORGE F. DICK, M.D.,
AND
LUDWIG A. EMGE
CHICAGO

A report by one of us[1] concerning a number of processes, with which fusiform bacilli were found associated, included three cases of meningitis and one cerebellar abscess. On account of the fact that these organisms were accompanied by streptococci and were, when isolated, non-pathogenic for animals, it was impossible to decide whether or not the fusiform bacilli caused the lesions or were saprophytic invaders of a process caused by the streptococci. An opportunity for additional information was afforded by the following case:

History.—A man aged 40 was admitted to the service of Dr. Dean D. Lewis at the Presbyterian Hospital suffering from severe headache on the left side associated with difficulty in speech. He had had a drainage of a temporosphenoidal abscess three months before that time, with recovery. This had been preceded by a chronic bronchitis. The second abscess was opened and a quantity of foul-smelling pus obtained from which cultures were made. The patient died about a week after the drainage of the abscess. The necropsy report was as follows:

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* From the Memorial Institute for Infectious Diseases, Chicago.

[1] Dick, George F.: Fusiform Bacilli Associated with Various Pathological Processes, Jour. Infec. Dis., 1913, xii, 191.

Anatomic Diagnosis.—Cerebral abscess, chronic and subacute leptomeningitis, recent and healed operative wounds in the scalp and calvarium, petechial hemorrhages of the heart, stomach and intestine, edema and hypostasis of the lungs, cloudy swelling of the heart and liver, fibrous adhesions between the stomach and pancreas, and between appendix and peritoneum, subacute and chronic follicular enterocolitis, Meckel's diverticulum.

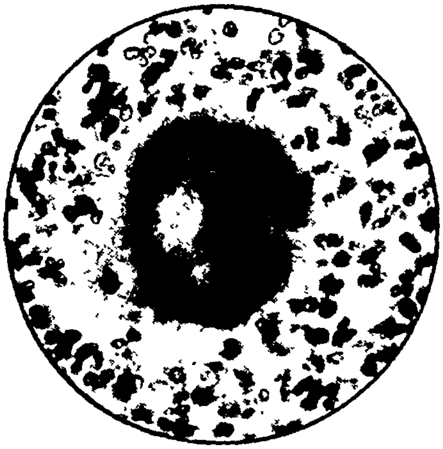


Fig. 1.—Actinomyces-like mass of fusiform bacilli in brain abscess; × 650.

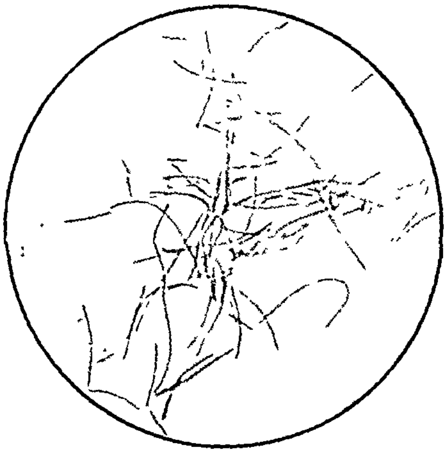


Fig. 2.—Fusiform bacilli from pure culture on blood-agar; × 1,200.

At the base of the nose is a circular opening in the skull 3 cm. wide, the margins of which are smooth. The dura and pericranial tissues are adherent, and the former is markedly thickened at this point. Just above the left ear is a linear incision, coronal in direction, 7 cm. long, the lower 4 cm. of which are gaping. The wound leads into an abscess-cavity located in the left cerebral hemisphere just anterior to the fissure of Sylvius. When the brain is removed, about 125 c.c. of a foul-smelling, dirty gray pus escapes. The ears and accessory sinuses are free from purulent material.

The brain is of normal size, weighing about 1,600 gm. The left hemisphere is somewhat larger than the right one. An abscess varying in width from 0.5 to 2 cm. follows the course of the left sylvian fissure and extends into the temporal, frontal and parietal lobes of the same side. It is filled with a brownish-green mass and ends within the left occipital lobe. The left lateral ventricle is compressed and half as large as the right, which is of normal size. The lesion separates the temporal lobe almost completely from the rest of the cerebrum and breaks into the left lateral ventricle at the beginning of the occipital lobe. The tissues of the affected lobes are infiltrated with brownish and greenish patches which replace the white and gray matter to a considerable extent. The cerebellum was found to be of normal size and without gross lesions.

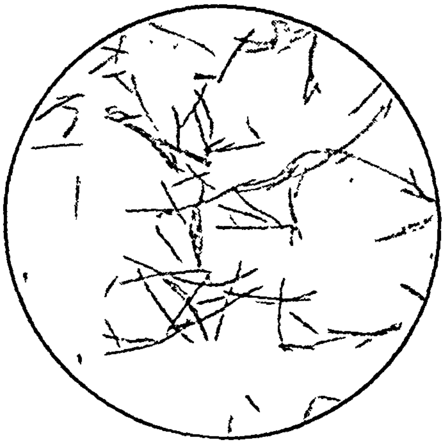


Fig. 3.—Fusiform bacilli from pure culture on blood-agar; × 1,200.

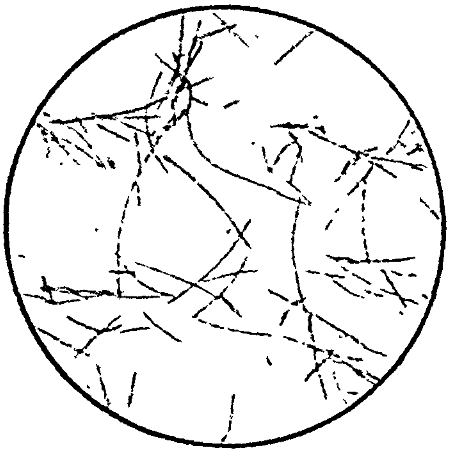


Fig. 4.—Fusiform bacilli from pure culture on blood-agar; × 1,200.

Examinations.—A number of pieces from the sides of the lesion, hardened in formaldehyd solution, were examined microscopically. The most marked changes are found in the middle and posterior third of the medulla and cortex of the left temporal lobe about the fissure of Sylvius. Especially conspicuous are the many large and small areas of necrosis which involve both the white and gray matter. These areas of necrosis are generally sharply demarcated and limited by a zone of fibrous connective tissue. There is also a marked accumulation of polymorphonuclear leukocytes which extends well into the gray matter, which for the greater part is broken down. Larger and smaller fields of recent hemorrhages are present throughout this region.

Between the necrotic areas as well as in the accumulation of polymorphonuclear leukocytes circular masses are seen which simulate in a measure an actinomycotic formation when observed under low magnification. They are invariably surrounded by heavy walls of small round cells and polymorphonuclear leukocytes. Under high magnification these masses are seen to consist of a great number of long slender filaments which radiate about a small ball of central members. Stained with hematoxylin and eosin, an outer small zone which takes the pink stain seems to consist of fine fibrin threads which spread between the surrounding cells. With connective-tissue and fibrin stains (Mallory-Weigert and Weigert-Mallory) it can be made out that these threads are not fibrin but the outer ends of the filamentous organisms. The organisms are Gram-negative when stained by Mallory-Wright and by Weigert's modification of Gram's stain. The groups of organisms vary in number as indicated by the size of the groups, the larger of which are found within the necrosed areas while the smaller groups are limited to the free accumulations of pus.

Anaerobic cultures made from the pus as obtained at the operation yielded a pure culture of fusiform bacilli. The organisms developed in from two to four days on the surface of ascites or blood-agar slants as small drop-like colonies which grew to be about a millimeter in diameter raised well above the surface of the medium. The growth in the water of condensation formed rather discrete colonies in the fluid. In ascites-agar stabs there was no outgrowth into the surrounding medium. The organism did not grow on ordinary mediums without serum or blood. The organisms were Gram-negative, at times distinctly fusiform and rather short, with vacuoles and granules; at times large filaments were formed.

A pure culture from one of the original colonies on blood-agar was injected into the brain of a rabbit. In about twelve hours the animal developed chronic convulsions and died in about thirty-six hours with paralysis of all four extremities.

Course of Disease.—I was inclined to regard the case as one of neurasthenia, exacerbated by auto-intoxication, and prescribed calomel in repeated doses during the day and salts in the morning. The next day the vomiting had ceased and the headache was better, but the speech was worse; the patient was subject to attacks of mental excitement. I advised his removal to hospital. He got up and dressed but I noticed that, although he put his tie-pin in straight, he was quite unable, after several minutes of effort, to adjust the fastener to its point. Romberg's sign was still absent. As he walked to the elevator money fell from his pocket but its loss was unnoticed. He chatted merrily on the way and walked up the hospital steps without effort. Vomiting was absent all that day and headache was slight. Temperature on admission, 97.6; pulse 70; calomel continued, 1/8 grain every two hours.

June 12: Patient had severe headache and sleeplessness during the night, but at 7 a. m. seemed much improved, spoke much more distinctly and grasped ideas better. Temperature 99, pulse 50, respirations 18.

This day a barely detectable weakness of the right arm and a trifling exaggeration of the tendon-jerks and epigastric reflex on the right side was present. The right plantar reflex was still flexor, but the great toe did not go down so briskly or so far as did the great toe on the left side; the second and third toes on the right side went up, but all the left toes went down. The face, upper and lower, moved equally to voluntary and emotional effort. In the absence of any apparent cause for cerebral abscess and the freedom from vomiting, from optic neuritis and from abducent weakness I regarded the case at this time as one of cerebral thrombosis. The presence of gastritis was sufficient to account for the low fever.

June 12: Potassium iodid administration begun and ice-cap applied. Patient complained of some sore throat.

June 13 to June 16: Little change. More or less headache with remissions present. Temperature range, from 98.6 morning, to 99.6 evening. Pulse, 54 to 84, with average of 60. Aphasia decidedly more marked.

June 16, morning: The patient looks and feels better. Right arm is used freely, but when at rest the hand is held in the classic hemiplegic position.

June 17: Marked hebetude. Pain localized on left side of head. Examination of the optic disks at my request by Dr. Frank Miller confirmed a beginning neuritis at the nasal side of each disk.

Operation.—June 17, I turned down an osteoplastic flap, the center of which corresponded to the angular gyrus. The dura bulged slightly and did not pulsate, the cortex was darker than normal and the vessels swollen. A trocar was inserted with a negative result. Exploration deep toward the lenticular nucleus with the little finger disclosed a cavity about the size of a small walnut, which was filled with thick ill-smelling pus. After this was evacuated, another smaller cavity was opened up as the drainage-tube was inserted. The tube was left *in situ* and brought through the center of the osteoplastic flap.

Postoperative History.—June 18, there was pronounced right hemiplegia, the face being only slightly affected.

June 20, the paralysis began to improve, as well as the mental condition and speech, but the drainage was slight from the first.

From June 22 the patient became more comatose and more toxic. June 24, I removed the bone flap and explored the abscess cavities, which were in a satisfactory condition and the meninges were well shut off. On the thirteenth day

The abscess in the optic thalamus presumably caused death. No sign of ear or nose disease was present. The organisms in the pus were declared by Dr. C. W. Bonynge of Los Angeles to be Pfeiffer's bacillus of influenza and *Staphylococcus aureus.*

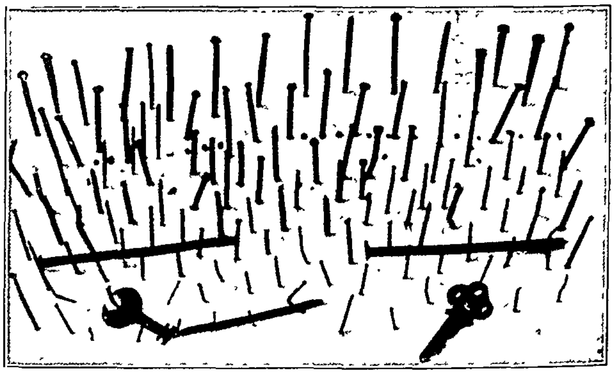
This case to my mind indicates the importance of early exploratory operation in doubtful cases of intracranial disease. I should not have waited for indications of optic neuritis and, although the diagnosis of thrombosis with cerebral softening was justifiable in the absence of any probable cause of abscess, nevertheless a well-executed decompression and inspection of the area indicated by the focal signs can do no great harm in thrombosis, and if in this case it had been performed June 11, instead of June 17, the ultimate result would, I think, have been different.

A similar case is reported by Dr. J. Henderson.[1] The abscess in this case was in exactly the same situation and on the left side but it burst into the ventricle. Dr. Henderson in his report says in conclusion that in such cases with no evidence of the origin of the infection a diagnosis of abscess must always be uncertain.

A CASE OF HARDWARE SWALLOWING

W. O. Wilder, M.D., Pittsfield, Mass.

History.—L. P., aged 41, a carpenter since 16, admitted to the House of Mercy Hospital, Oct. 24, 1912, juggled coins in his mouth and throat, when a youth, for the amusement of his friends. In 1908 he began to swallow nails for money, and later indulged in a diet of knives, cigars, etc., which he would vomit up sometimes and at other times pass by bowel. He said that he was accustomed to swallow 4 feet of 1-inch dog-chain, and women's neck-chains of similar length. These were usually redrawn from the stomach. For the past four or five years the patient has suffered with sharp pains in the abdomen, which were partially relieved by partaking of food. The pains recently had become extremely acute and constant, being localized in the left upper quadrant of the abdomen, and made more severe by any movement of the body.



Foreign bodies removed from the stomach.

Examination.—The bowels were regular and the stools contained no blood. The patient was very much emaciated. The lungs and heart were negative, the abdomen flat and rigid. Pressure demonstrated no tumor but did elicit an extremely tender area in the left upper quadrant. Roentgenoscopy revealed a definite irregular-shaped shadow in the left upper quadrant of the abdomen.

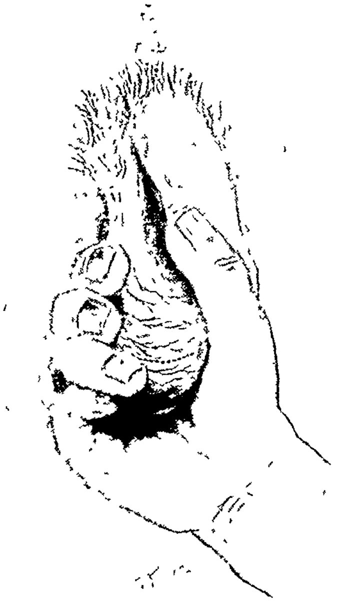
Operation.—An incision was made in the left rectus above of wire were removed. These foreign bodies lay in a pouch-shaped distention of the cardiac end of the stomach and weighed ¾ of a pound in bulk.

Recovery was uneventful.

A TRANSVERSE INCISION FOR OPERATION ON THE SCROTUM

George Morris Dorrance, M.D., Philadelphia
Surgeon to St. Agnes' Hospital

In operations on the scrotum, the longitudinal incision is the one described in all the text-books which I have consulted On examination of the lower half of the scrotum, it will be found that the superficial vessels and nerves run almost transversely. If the incision is placed transversely between the vessels which can easily be seen, injury to many of these structures will be avoided and the incision will be in the line of the folds of the skin. This is well shown in the accompanying illustration. The edges of the incision will approximate themselves and the sutures will make a good even wound. After the removal of the drain, if drainage is required, the edges will fall together. If it is desired to shorten the scrotum, a second transverse incision with excision of the intervening skin and fascia will give the desired results. This method has the advantage of shortening the cremasteric muscle in its entire width, a result not obtained by suturing the longitudinal incision transversely. The longitudinal incision does not produce a neat wound. The dotted line indicates the line of incision.



Transverse incision (indicated by the dotted line) between superficial vessels of scrotum.

2025 Walnut Street.

A Case of Right Inguinal Hernia of Ovary and Tube.—
L. P., student, aged 12, was brought to the office in October,
1913, by her parents because of a right inguinal hernia.
er parents could not remember when the trouble was first
iced, but said that other physicians had told them that
hild was ruptured and prescribed a truss which she had
or some years. Except for the inconvenience of wear-
truss, the hernia troubled her very little. At this
was nothing in the inguinal canal and the hernia
been easily reduced. On December 15 I was
house to see the patient. Two days before,
ring her truss, she coughed and a swelling
right inguinal region, which she was unable
ion a small, oval, tender mass the
d in the right inguinal canal.
distance up and down the
the abdominal cavity. A
ary was made and the
ration the sac was
but no bowel or
n the abdomi-
usual way.
T S. Barr,

A CONGENITAL MALFORMATION OF THE NECK

Charles A. Parker, M.D., Chicago

In May, 1912, the patient, A. F., a girl aged about 11, came to the service of Drs. Blanchard and Parker at the Home for Destitute Crippled Children, for the correction of a peculiar deformity *involving principally* the skin on both sides of the neck. The deformity is well illustrated in Figure 1, and consisted of two symmetrical wing-like folds of skin extending from either mastoid region to the top of the shoulder. These wings had always existed to some extent and changed very little in appearance with muscular contraction. They interfered somewhat with the movements of the head, but it was more on account of the deformity that their removal was sought. The redundant fold of skin was removed by an incision extending from the mastoid to the outer end of the clavicle on either side of the fold leaving an elliptical wound which, when closed, made a more nearly normal-appearing neck (Fig. 2). On account of troublesome anesthesia the two folds were removed at separate operations. The portion removed, besides the skin, contained fibrous tissue in which were included some muscle fibers. No microscopic examination was made. The position of the fold, just behind the ear, was too far forward for the trapezius, and the bottom was too far out on the shoulder for the sternomastoid.

The case is unique as far as our knowledge and experience go and we can offer no plausible explanation of its development. The family history, however, suggests a very definite factor in its origin. The father has locomotor ataxia, an older sister has a congenital dislocation of the hip and five children died during infancy, one being still-born.

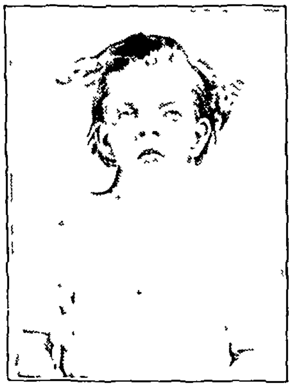


Fig. 1.—Congenital malformation of the neck.

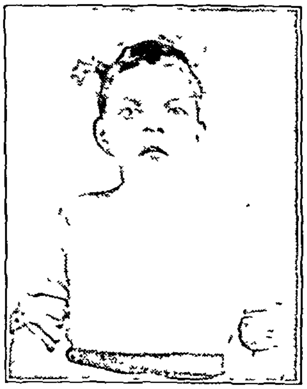


Fig. 2.—Patient in Figure 1 after operation.

The accompanying illustrations show the facial characteristics of this child. Later she developed a dislocation of the patella, resembling the congenital type, which was cured by operation.

7 West Madison Street.

Morbidity Statistics in the United States.—We must not let ourselves be blinded by statistics, for the statistics of disease in the United States are notoriously unreliable. For certain sections no attempt whatever is made to collect them. * * * Until severe penalties are inflicted for failure to report cases of infectious diseases, until failure to do so results in the cancellation of the license to practice medicine, there will be no really reliable statistics. And this will only be brought about when the state health services throughout the land furnish a permanent career for life instead of being, as they are but too often at present, a side-line of politics—medical or otherwise. And these services should furnish a career like the federal civil service, to sanitary engineers and chemists as well as to physicians. The people must learn that their health is too valuable to entrust to temporary health officers or to physicians who devote to the discharge of their duties as health officers only such irregular moments as can be spared from private practice.—Carl L. Alsberg, *Am. Jour. Pub. Health.*

The meningeal fluid was found at necropsy to be rich in polymorphonuclear leukocytes, and fusiform bacilli were found in smears and cultures from the fluid. The lateral ventricles were filled with thin pus from which the organisms were also recovered in pure culture. A slant of this culture was injected into the brain of a second rabbit, and this animal died in much the same way as the first. In this animal a small abscess was found just outside of the right lateral ventricle, with necrosis of the surrounding tissue. The tissue was examined for actinomyces-like bodies similar to these described in the necropsy, but none were found. Two rabbits injected intrameningeally died in about thirty-six hours in convulsions. In these rabbits there was very little exudate on the meninges, but only a diffuse hyperemia. At this point a contamination of the strain which was being passed through rabbits occurred, and experiments were resorted to with subcultures from the original growth, which had been over a month. Injection of a culture of these organisms into the meninges was without result. Later it was found that intrameningeal injections of the growth from a dozen slants were apparently harmless for rabbits. One animal received three injections of large quantities of the organisms with no harmful results. The cultures had lost their pathogenicity. It is not improbable that the readiness with which pathogenicity is lost in these organisms explains the negative results of attempts to produce lesions in animals, as the isolation in pus culture of fusiform bacilli is often time-consuming.

The finding of the actinomyces-like bodies in an abscess from which pure cultures of fusiform bacilli were obtained has direct bearing on the identity of the so-called ray fungi commonly found in tonsils. These bodies have been commonly mistaken for actinomycelial granules. Davis[2] believes these granules to be composed of streptococci, spirilla and organisms of the fusiform group.

The filaments composing the bodies found in the brain in this case resemble closely the organisms cultivated from the pus containing them.

HEREDITY IN BONE LESIONS

WITH THE REPORT OF AN UNUSUAL FAMILY HISTORY *

JOSEPH RANSOHOFF, M.D., F.R.C.S. (Eng.)
CINCINNATI

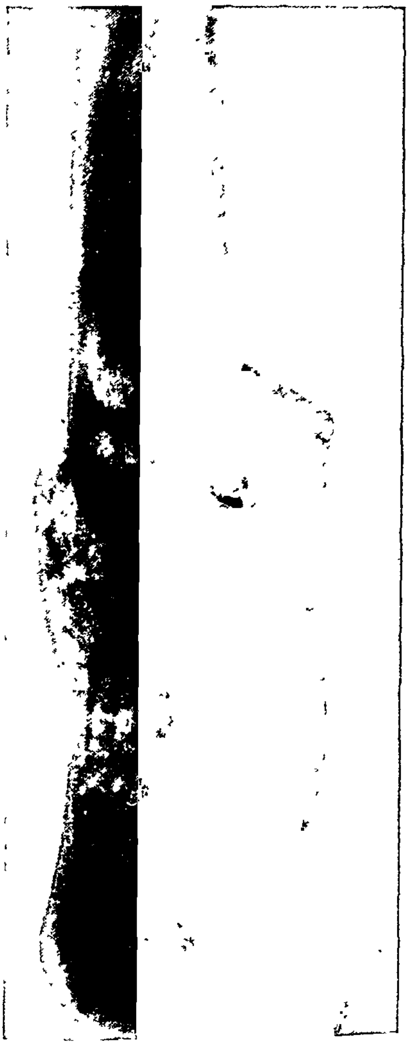
Because it has been my unusual privilege to come into personal contact with morbid heredity through three generations of one family, I take the opportunity of presenting, in brief, the histories of four patients of three separate generations.

Case 1.—Mrs. M. X., aged 68, was born in England, there was no obtainable history of hereditary disease. Her husband who was short of stature, had no hereditary pathologic history. He died of senility at 79. One brother died of acute nephritis at 47, and one sister of diabetes at the age of 70. The patient had been well until four or five months before she came under my observation, in July of 1891. During these months she suffered severely from pains in the lower third of the thigh. They were supposed to be rheumatic. In attempting one morning to get out of bed she sustained a spontaneous fracture. At the site of this a tumor rapidly formed, for which an amputation was made. The patient died Sept. 18, 1891, of pulmonary metastasis.

The specimen showed a mixed sarcoma of the femur with spontaneous fracture. This was before the days of roentgenography. Fortunately the specimen was preserved, and has been roentgenographed (as shown in the accompanying illustration). The disease was limited to about 3 inches of the lower third of the femur and stopped short of the condyles. The compact tissue and the medulla for 2 inches above the main tumor mass show alternating areas of bone rarefaction and hyperplasia. On the surface the growth has completely surrounded the femoral shaft in the form of a ring 2 inches wide encircling the line of fracture. With the invasion of the soft parts the myeloma evidently assumed the malignancy of the sarcoma group in general.

Mrs. X. had two daughters and two sons. One of the daughters has remained single and well, except for a cystic disease of the breast. The second daughter is married and has three children, all of them well. The two sons are Patients 2 and 3.

Case 2.—S. X., aged 48, younger son of Patient 1, in 1890 contracted syphilis which was apparently cured by the treatment then in vogue. In January, 1899, he first complained of pains in the right hip and became lame. Being told that the condition was probably luetic, he submitted to a long course of treatment at Hot Springs, without effect. Trips to various health resorts failed to bring relief. When I first saw the patient he presented the following condition: In face and stature, he resembled his mother. The right thigh is in moderate abduction and slightly flexed. Between the trochanter and the iliac crest is seen a distinct fulness which extends forward to the anterior surface of the thigh. The mass was evidently deep-seated in its origin. A roentgenogram, which unfortunately has been lost, showed an osteosarcoma of the femoral neck which had invaded the trochanter, completely destroying it. Although an exarticulation at the hip was advised, it was not urged. The tumor grew very rapidly, invaded the skin, and death from recurrent hemorrhages ensued in March of 1900, fourteen months after the onset of symptoms.



Mixed central sarcoma of femur with spontaneous fracture. Roentgenogram taken from specimen twenty-two years after amputation.

A necropsy was not permitted, nor could a part of the tumor be obtained. Although this case was probably from the beginning, on account of its malignancy, a sarcoma of periosteal origin, the possibility of its having been primarily a myeloma cannot be definitely excluded.

Case 3.—J. X., older son of Patient 1, showed more than ordinary family resemblance to his mother and brother. There is no history of syphilis. Patient was in excellent health until he had passed his fiftieth year. He then developed a typical osteitis deformans, beginning with the bowing of both tibiae.

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[2] Davis: Personal communication.

* Read before the Southern Surgical Association, Dec. 17, 1913.

The femurs followed next, and then the necks of both femurs. In the course of three or four years the spine became progressively involved so that in walking the upper part of the trunk was almost parallel with the floor. Locomotion became exceedingly difficult and was made possible only by the use of two heavy canes. The case was one of osteitis deformans and ended fatally at 64. The immediate cause of death was nephritis.

Case 4.—F. X., born in 1888, daughter of Patient 3, came under my observation when she was a year old. The patient who is now living and 25 years old, resembles the mother very closely in stature, color and facial characteristics. She has one younger brother and one sister. Both resemble the father. They seem normal in every way.

When the patient was 6 months old it was found that she could bear no weight on the left foot. An examination revealed a break in the lower end of the tibia and a slight shortening of the leg and foot. There was no other deformity. There had been no history of an injury. The manipulations were not in the least painful. All efforts to obtain union in the fracture by the ordinary means failed, and the limb could not be made to bear weight. When the child was 4 years old the affected leg was 2 inches short. The foot was shorter than its fellow and poor in its circulation. An operation was now performed with a view in some manner of bringing the fragments into contact. The exploration revealed an intact fibula. The upper fragment of the tibia was bulbous and eburnated. The lower fragment was triangular, very atrophic and terminated above in an almost dagger-like point. At the operation the upper fragments were vivified and the lower firmly fixed in the medulla. This of course, was before the technic of bone-grafting was far developed. The result was unsatisfactory. The roentgenogram taken when the patient was 11 years old showed that the operation had not improved the condition. It was much as it had been before the operation.

Prostheses of various kinds had to be restorted to. Without them, locomotion was impossible. The roentgenogram taken two years later showed that the fibula had also broken. The leg was a little over 3 inches shorter than the other. Trophic changes in the foot, such as painful though superficial ulcerations, made life so intolerable that when the patient was in her sixteenth year an amputation was made below the knee as a matter of election.

The pathologic nature of this case is a puzzle difficult to solve. Was it an unrecognized case of intra-uterine or intrapartum fracture? Was it a fracture at all, or was it from the beginning an imperfect osteogenesis? I am inclined to believe that it was the latter, in view of the family tendency to bone lesions, and because the ordinary concomitance of intra-uterine fracture, such as bowing of the tibia, the amniotic scar over the fracture and other deformities of the leg and foot were absent. Furthermore, the theory of imperfect bone genesis fits in with the remarkable tendency to bone lesions in the family.

In 20 per cent. of the cases of osteitis deformans a hereditary tendency has been found to exist. In many of them, death results from sarcoma developing in previously affected bones. Indeed, Paget's first patient died of sarcoma of the ulna. There are ranking pathologists to-day who believe that the medullary bone sarcoma is not a sarcoma at all, but only a variant of the fibrous osteitis, which so often ends in bone deformity.

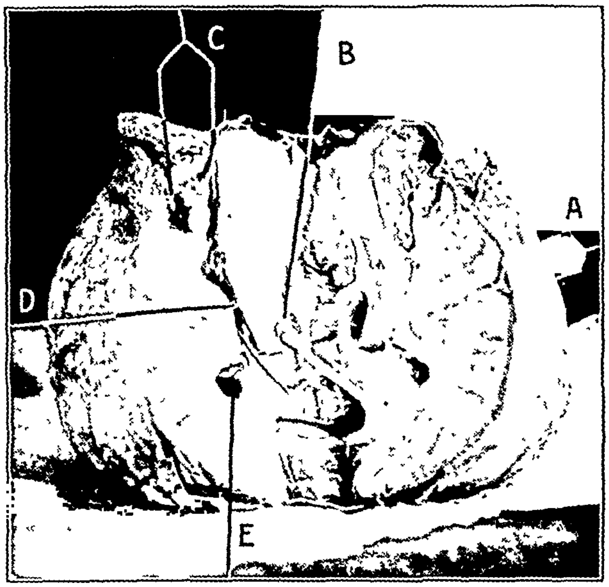
Therefore, in three of my cases the similarity, if not identity of the bone lesions, must be conceded. In the fourth and last case the morphologic kinship, though undoubted, is not so clear.

I am safe in saying that in all these cases bone tissue was by heredity a *locus minoris resistentiae*, a phrase little used during the last decades, in which the bacteriologists pushed aside our theories of the causes of disease. But for many things we are forced to fall back on heredity. The *locus minoris* of our fathers is still the weak spot, only the modern experimental biologist calls it the "recessive." The future alone can tell how far-reaching was the study of that humble Augustinian friar who, in the little walled garden of his cloister at Brunn, looked on the humble garden pea with a higher thought than that if there were enough of them, they made a good meal on Friday.

A CASE OF BRAIN ABSCESS

Cecil E. Reynolds, M.R.C.S., L.R.C.P. (London);
D.P.H. (Cambridge); Los Angeles

Patient.—F. D. T., a publisher, arrived in Los Angeles June 10, 1913. He was ill during the night of June 9, with some headache and nausea, but as for years past he had been subject to attacks of "nervous prostration" which were accompanied by headache and vomiting, he did not regard the attack as particularly serious. June 10, during a business interview, he could not express himself as lucidly as was necessary; in consequence he became excited and was removed to his hotel, where I saw him about 4 p. m.



Coronal section of brain 1 inch behind the midpoint; *a*, anterior portion of brain; *b*, metastatic abscess in left thalamus; *c*, primary abscesses; *d*, velum separating left ventricle from abscess; *e*, right lateral ventricle.

I found a healthy, intelligent-looking man, aged 46, of spare build and showing no signs of alcoholism or other degenerative stigmata. He was sitting up in bed, vomiting a watery bile at intervals; he complained of some generalized headache and an inability to find the right word. He had often had these attacks, but never such marked amnesia. He had recently been under great worry and mental strain. He had taken no alcohol and had never had syphilis.

Examination.—Heart and lungs normal, tongue heavily coated and bowels constipated. Temperature 99 F., pulse 85. Cranial nerves normal; no ptosis, strabismus or nystagmus. Power and sensation equal and unaltered; no ataxy. Romberg sign absent. Superficial reflexes equal and normal; deep reflexes equal and moderately exaggerated. Optic disks normal; no contraction of the fields of vision. Patient could read fairly well, though with some hesitancy; when writing to dictation it was well executed, but he was easily fatigued. No disease of scalp, ears or nose. In conversation he showed marked forgetfulness of names.

Course of Disease.—I was inclined to regard the case as one of neurasthenia, exacerbated by auto-intoxication, and prescribed calomel in repeated doses during the day and salts in the morning. The next day the vomiting had ceased and the headache was better, but the speech was worse; the patient was subject to attacks of mental excitement. I advised his removal to hospital. He got up and dressed but I noticed that, although he put his tie-pin in straight, he was quite unable, after several minutes of effort, to adjust the fastener to its point. Romberg's sign was still absent. As he walked to the elevator money fell from his pocket but its loss was unnoticed. He chatted merrily on the way and walked up the hospital steps without effort. Vomiting was absent all that day and headache was slight. Temperature on admission, 97.6; pulse 70; calomel continued, ⅛ grain every two hours.

June 12: Patient had severe headache and sleeplessness during the night, but at 7 a. m. seemed much improved, spoke much more distinctly and grasped ideas better. Temperature 99, pulse 50, respirations 18.

This day a barely detectable weakness of the right arm and a trifling exaggeration of the tendon-jerks and epigastric reflex on the right side was present. The right plantar reflex was still flexor, but the great toe did not go down so briskly or so far as did the great toe on the left side; the second and third toes on the right side went up, but all the left toes went down. The face, upper and lower, moved equally to voluntary and emotional effort. In the absence of any apparent cause for cerebral abscess and the freedom from vomiting, from optic neuritis and from abducent weakness I regarded the case at this time as one of cerebral thrombosis. The presence of gastritis was sufficient to account for the low fever.

June 12: Potassium iodid administration begun and ice-cap applied. Patient complained of some sore throat.

June 13 to June 16: Little change. More or less headache with remissions present. Temperature range, from 98.6 morning, to 99.6 evening. Pulse, 54 to 84, with average of 60. Aphasia decidedly more marked.

June 16, morning: The patient looks and feels better. Right arm is used freely, but when at rest the hand is held in the classic hemiplegic position.

June 17: Marked hebetude. Pain localized on left side of head. Examination of the optic disks at my request by Dr. Frank Miller confirmed a beginning neuritis at the nasal side of each disk.

Operation.—June 17, I turned down an osteoplastic flap, the center of which corresponded to the angular gyrus. The dura bulged slightly and did not pulsate, the cortex was darker than normal and the vessels swollen. A trocar was inserted with a negative result. Exploration deep toward the lenticular nucleus with the little finger disclosed a cavity about the size of a small walnut, which was filled with thick ill-smelling pus. After this was evacuated, another smaller cavity was opened up as the drainage-tube was inserted. The tube was left *in situ* and brought through the center of the osteoplastic flap.

Postoperative History.—June 18, there was pronounced right hemiplegia, the face being only slightly affected.

June 20, the paralysis began to improve, as well as the mental condition and speech, but the drainage was slight from the first.

From June 22 the patient became more comatose and more toxic. June 24, I removed the bone flap and explored the abscess cavities, which were in a satisfactory condition and the meninges were well shut off. On the thirteenth day following the operation, however, the patient gradually sank and died.

Post-Mortem Findings: No meningitis existed beyond the field of operation. There were two abscess cavities side by side in the white matter of the angular and intraparietal lobes, each rather larger than half a walnut. The anterior one led by a narrow channel to a recent abscess the size of a hazelnut in the left optic thalamus. The other abscess cavity was separated from the left lateral ventricle by a narrow velum only. The abscess in the optic thalamus presumably caused death. No sign of ear or nose disease was present. The organisms in the pus were declared by Dr. C. W. Bonynge of Los Angeles to be Pfeiffer's bacillus of influenza and *Staphylococcus aureus.*

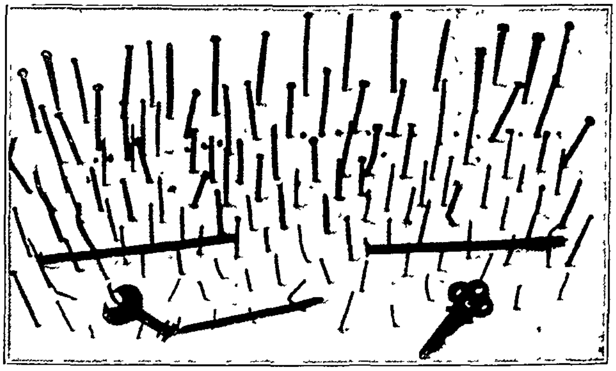
This case to my mind indicates the importance of early exploratory operation in doubtful cases of intracranial disease. I should not have waited for indications of optic neuritis and, although the diagnosis of thrombosis with cerebral softening was justifiable in the absence of any probable cause of abscess, nevertheless a well-executed decompression and inspection of the area indicated by the focal signs can do no great harm in thrombosis, and if in this case it had been performed June 11, instead of June 17, the ultimate result would, I think, have been different.

A similar case is reported by Dr. J. Henderson.[1] The abscess in this case was in exactly the same situation and on the left side but it burst into the ventricle. Dr. Henderson in his report says in conclusion that in such cases with no evidence of the origin of the infection a diagnosis of abscess must always be uncertain.

A CASE OF HARDWARE SWALLOWING

W. O. Wilder, M.D., Pittsfield, Mass.

History.—L. P., aged 41, a carpenter since 16, admitted to the House of Mercy Hospital, Oct. 24, 1912, juggled coins in his mouth and throat, when a youth, for the amusement of his friends. In 1908 he began to swallow nails for money, and later indulged in a diet of knives, cigars, etc., which he would vomit up sometimes and at other times pass by bowel. He said that he was accustomed to swallow 4 feet of 1-inch dog-chain, and women's neck-chains of similar length. These were usually redrawn from the stomach. For the past four or five years the patient has suffered with sharp pains in the abdomen, which were partially relieved by partaking of food. The pains recently had become extremely acute and constant, being localized in the left upper quadrant of the abdomen, and made more severe by any movement of the body.



Foreign bodies removed from the stomach.

Examination.—The bowels were regular and the stools contained no blood. The patient was very much emaciated. The lungs and heart were negative, the abdomen flat and rigid. Pressure demonstrated no tumor but did elicit an extremely tender area in the left upper quadrant. Roentgenoscopy revealed a definite irregular-shaped shadow in the left upper quadrant of the abdomen.

Operation.—An incision was made in the left rectus above the umbilicus. An adhesion of stomach to the abdominal wall was freed and a small perforation of stomach was found through which protruded the point of a nail. After the field of operation had been thoroughly walled off with gauze, the perforation was so enlarged as to admit the hand, and two keys, two twelvepenny nails and 130 other nails and pieces of wire were removed. These foreign bodies lay in a pouch-shaped distention of the cardiac end of the stomach and weighed ¾ of a pound in bulk.

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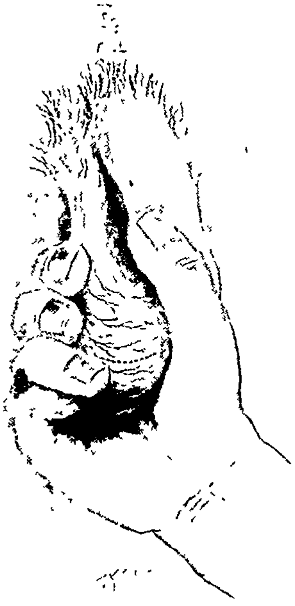
[1] Henderson, John: A Case of "Idiopathic" Cerebral Abscess, Lancet, London, May 31, 1913, p. 1525.

Recovery was uneventful.

A TRANSVERSE INCISION FOR OPERATION ON THE SCROTUM

George Morris Dorrance, M.D., Philadelphia
Surgeon to St. Agnes' Hospital

In operations on the scrotum, the longitudinal incision is the one described in all the text-books which I have consulted On examination of the lower half of the scrotum, it will be found that the superficial vessels and nerves run almost transversely. If the incision is placed transversely between the vessels which can easily be seen, injury to many of these structures will be avoided and the incision will be in the line of the folds of the skin. This is well shown in the accompanying illustration. The edges of the incision will approximate themselves and the sutures will make a good even wound. After the removal of the drain, if drainage is required, the edges will fall together. If it is desired to shorten the scrotum, a second transverse incision with excision of the intervening skin and fascia will give the desired results. This method has the advantage of shortening the cremasteric muscle in its entire width, a result not obtained by suturing the longitudinal incision transversely. The longitudinal incision does not produce a neat wound. The dotted line indicates the line of incision.



Transverse incision (indicated by the dotted line) between superficial vessels of scrotum.

2025 Walnut Street.

A Case of Right Inguinal Hernia of Ovary and Tube.—L. P., student, aged 12, was brought to the office in October, 1913, by her parents because of a right inguinal hernia. Her parents could not remember when the trouble was first noticed, but said that other physicians had told them that the child was ruptured and prescribed a truss which she had worn for some years. Except for the inconvenience of wearing the truss, the hernia troubled her very little. At this time there was nothing in the inguinal canal and the hernia had always been easily reduced. On December 15 I was called to the house to see the patient. Two days before, while not wearing her truss, she coughed and a swelling appeared in the right inguinal region, which she was unable to reduce. On examination a small, oval, tender mass the size of an almond was found in the right inguinal canal. This could be moved a certain distance up and down the canal but could not be replaced in the abdominal cavity. A probable diagnosis of hernia of the ovary was made and the child sent to the hospital. At the operation the sac was found to contain the right ovary and tube but no bowel or omentum. The ovary and tube were replaced in the abdominal cavity and the wound closed in layers in the usual way. The subsequent history is of no interest.—Albert S. Barr, M.D., Greenville, Mich.

A CONGENITAL MALFORMATION OF THE NECK

Charles A. Parker, M.D., Chicago

In May, 1912, the patient, A. F., a girl aged about 11, came to the service of Drs. Blanchard and Parker at the Home for Destitute Crippled Children, for the correction of a peculiar deformity involving principally the skin on both sides of the neck. The deformity is well illustrated in Figure 1, and consisted of two symmetrical wing-like folds of skin extending from either mastoid region to the top of the shoulder. These wings had always existed to some extent and changed very little in appearance with muscular contraction. They interfered somewhat with the movements of the head, but it was more on account of the deformity that their removal was sought. The redundant fold of skin was removed by an incision extending from the mastoid to the outer end of the clavicle on either side of the fold leaving an elliptical wound which, when closed, made a more nearly normal-appearing neck (Fig. 2). On account of troublesome anesthesia the two folds were removed at separate operations. The portion removed, besides the skin, contained fibrous tissue in which were included some muscle fibers. No microscopic examination was made. The position of the fold, just behind the ear, was too far forward for the trapezius, and the bottom was too far out on the shoulder for the sternomastoid.

The case is unique as far as our knowledge and experience go and we can offer no plausible explanation of its development. The family history, however, suggests a very definite factor in its origin. The father has locomotor ataxia, an older sister has a congenital dislocation of the hip and five children died during infancy, one being still-born.

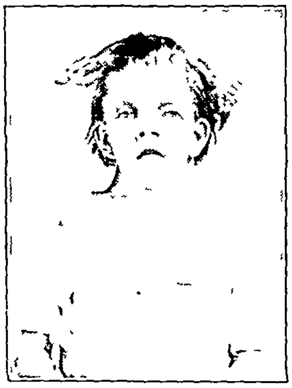


Fig. 1.—Congenital malformation of the neck.

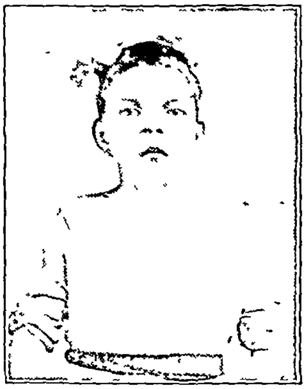


Fig. 2.—Patient in Figure 1 after operation.

The accompanying *illustrations* show the facial characteristics of this child. Later she developed a dislocation of the patella, resembling the congenital type, which was cured by operation.

7 West Madison Street.

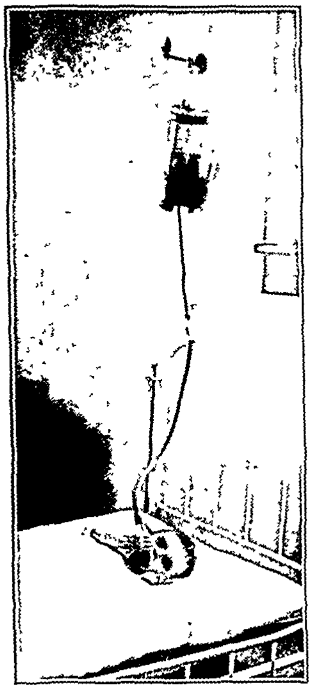
Morbidity Statistics in the United States.—We must not let ourselves be blinded by statistics, for the statistics of disease in the United States are notoriously unreliable. For certain sections no attempt whatever is made to collect them. * * * Until severe penalties are inflicted for failure to report cases of infectious diseases, until failure to do so results in the cancellation of the license to practice medicine, there will be no really reliable statistics. And this will only be brought about when the state health services throughout the land furnish a permanent career for life instead of being, as they are but too often at present, a side-line of politics—medical or otherwise. And these services should furnish a career like the federal civil service, to sanitary engineers and chemists as well as to physicians. The people must learn that their health is too valuable to entrust to temporary health officers or to physicians who devote to the discharge of their duties as health officers only such irregular moments as can be spared from private practice.—Carl L. Alsberg, *Am. Jour. Pub. Health.*

New Instruments and Suggestions

THE MOUTH-DRIP: A METHOD OF ADMINISTERING FLUID TO INFANTS IN GASTRO-ENTERITIS (ALIMENTARY INTOXICATION)

ALFRED F. HESS, M.D., NEW YORK

In the acute gastro-intestinal disturbances of infants, an excessive loss of fluid constitutes one of the greatest dangers to which the infants are subjected. Metabolism studies have shown this, and it is evident to even the casual observer. The dry skin, the parched mouth, the sunken eyes, the depressed fontanel, are striking evidences of a marked depletion of the body fluids. This condition is seen in its greatest intensity when the watery stools are marked and frequent and vomiting is repeated; but it is encountered also in those cases which are mainly toxic in character and which preeminently deserve Finkelstein's appellation of alimentary intoxication. In such cases there may be little or no vomiting, the diarrhea may have almost ceased, and yet the extreme prostration, the apathy or semistupor afford unmistakable evidence that the situation is critical. At this time, we know, food must be at first entirely withheld, and then given only in minimal amounts. If it is given even in moderate amount and in correct formula it acts as a food-poison, increasing the stupor and leading rapidly to death. At this period of the disease the most essential therapeutic measure is to supply the infant, in one way or another, with a large amount of fluid. Almost all textbooks emphasize this point; urging that under such conditions small quantities of water be given frequently. This can be accomplished in various ways. The fluid may be proffered every fifteen minutes or half-hour by mouth, it may be introduced by means of hypodermoclysis, or, finally, it may be instilled into the rectum.



Mouth-drip Infant sucking on nipple. The glass dropper and regulating stop-cock may be seen just above upper rail of bed. Care should be taken that the tube does not drag, and, by its own weight, tend to be pulled away from the mouth of the infant. In order to avoid this, it can be suspended vertically (as shown in the illustration) or, still better, it can be so arranged that the part near the nipple rests horizontally on the bed. To obviate, furthermore, a tendency of the nipple to be pulled away, it will be noticed that the comparatively heavy glass dropper is placed at a considerable distance from the nipple. Another detail, perhaps worthy of mention, is that before the drip is started the fluid is allowed to fill the entire tube; after it is filled, the regulating pinch-cock is applied so that the fluid falls drop by drop.

In the course of the past year I have made use of an expedient which seems to me serviceable in this connection, and therefore of sufficient importance to bring to the attention of those who have to treat this type of disease. In brief, it consists of applying what is popularly known as the Murphy drip-method (by means of which water is given drop by drop by rectum) to the giving of water by mouth—or, in other words, a "mouth-drip." This method has the advantage that fluid entering the upper intestinal tract is absorbed more completely than that which is given subcutaneously or by rectum. Furthermore, in acute enteritis the irritability of the bowel is so marked that the rubber nozzle is not well retained and, indeed, intensifies the diarrhea.

The apparatus (as shown in the accompanying illustration) is the same as the rectal drip except that, instead of a hard rubber nozzle, an ordinary rubber nipple is attached to the end of the tubing by means of a glass connecting-piece. The baby is encouraged to suck on this nipple for the greater part of the day and in this way obtains a large amount of water, hypotonic salt solution, Ringer's solution or other fluid.[1] I have had the drip so regulated by means of a pinch-cock that from about 25 to 30 drops per minute fall from the glass-dropper into the tube. In every case of enteritis in the hospital an apparatus of this kind has been suspended next to the bed. By this means these infants have received about a quart of water in the course of the twenty-four hours, the amount of fluid naturally depending on their thirst and on the degree of the poisoning. Often in the early stages, when the tongue is dry and parched, they will suck almost continuously on the nipple and cry when it is removed, whereas later, when entering on convalescence, they will no longer take to it so greedily. The nipple at times falls from the mouth, the infant releasing its hold. In order that the bed-covering shall not be made wet in this way a little saucer or plate is placed next to the baby's head. The nurse, therefore, has to replace the nipple from time to time. This does not entail near the amount of labor or individual attention which would be required were the infant to receive the same amount of fluid by bottle or spoon in the course of twenty-four hours. To accomplish this end, the nurse would have to offer the water or other fluid many times in the course of an hour. In my experience, this is practically impossible in an infants' ward. If there is one nurse to one or two babies, she can devote her attention to supplying the infants with sufficient fluid; but in the ordinary infants' wards, so many other duties fall on the nurses that the infants, unable as they are to give utterance to their wants, lie often for hours in urgent need of fluid. It must, I think, be a common experience that when a spoonful of water is offered to an infant suffering from alimentary intoxication, it is gulped down greedily by the thirsty baby as if it had not received any water for hours. So great is the absorptive power of the mucous membranes in these cases that the tongue becomes parched in a very few minutes after water has been administered.

It may be urged that by keeping a nipple in the baby's mouth we are encouraging the formation of a bad habit. This criticism, however, can hardly be entertained in a consideration of the treatment of a disease involving a mortality so high as that of gastro-enteritis of infants. In the light of recent studies in metabolism, demonstrating the marked difference between the expenditure of energy in infants that are quiet and in those that are restless, it is, indeed, questionable whether this procedure does not possess additional advantages through its quieting effect and through the conservation of calories which it in this way accomplishes.

This "mouth-drip" is brought forward not with the idea of presenting a novel device, but merely as a simple method of facilitating the introduction of large quantities of fluid, more especially in alimentary intoxication, but also in other toxic conditions of infants and in pyelitis, in which large quantities of fluids are indicated. It is particularly applicable to the hospital ward, where the infants cannot have the individual attention of a nurse.

16 West Eighty-Sixth Street.

A SIMPLE CYSTOSCOPE HOLDER

LOUIS FRIEDMAN, M.D., NEW YORK

Cystoscope holders are made either in the form of a floor-stand or to be attached to the examining-table. They are usually either too heavy or too bulky for supporting a light instrument like a cystoscope, while some are complicated and clumsy.

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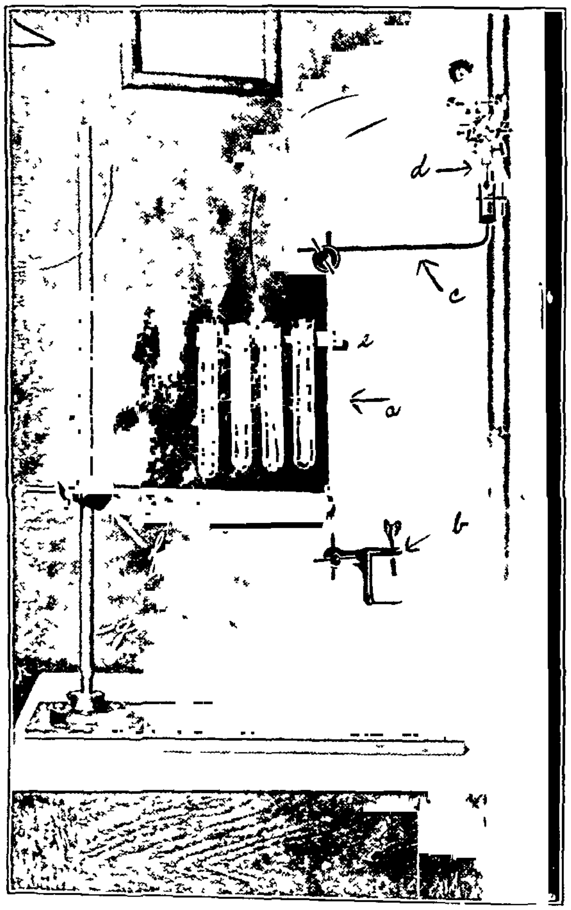
[1] The addition of a small amount of saccharin to the water frequently results in the babies' taking still larger quantities.

I have constructed a holder which is easy to manage, simple in construction, light and strong and will hold any kind and size of cystoscope in any position desired. It is attached to the table or to the leg-holder rod. During cystoscopy it can be swung out of the way when not wanted and is not in the way when in use because of its small size and compactness. It holds the cystoscope in a steady position while urine is being collected from either kidney; it is very useful when one has to work without assistance and particularly convenient and practical for demonstration purposes as the cystoscope stays exactly where placed, so that the field in the bladder under observation can be studied at leisure.

The perpendicular bar (*a*) is 12 inches long, held by the clamp (*b*) which is attached to the side of the table. The horizontal bar (*c*) is 8 inches long, can be swung to any angle and holds the cystoscope by a clamp (*d*), this being a ball-and-socket joint, giving a wide range of motion. To the bar (*a*) is attached a holder (*e*) for centrifuge glass or test-tubes, into which urine is to be collected. It is more desirable and much simpler if Clamp *b* can be used for attaching the cystoscope holder to the table; but some tables are so constructed that this cannot be done. Then Clamp *f* must be used instead, which is attached to the leg-holder rod (represented in the illustration by *g*), through which clamp runs a horizontal bar supporting the rest of the apparatus. It weighs about 9 ounces.



Cystoscope holder.

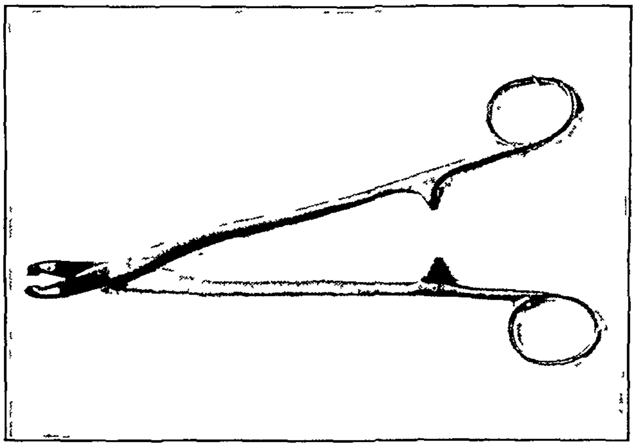
262 West One Hundred Thirteenth Street.

Public Education.—Restrictions of personal liberty, in order to be enforced and to be of any value, must be understood and supported by the public. But the people will only submit to such restriction of their individual liberty as they are convinced is necessary for their own good.

UTERINE SPECIMEN FORCEPS

W. C. Gayler, M.D., St. Louis

This is an instrument to facilitate the removal of small particles from the cervix uteri for microscopic examination, in order to determine the presence or absence of malignant changes. It removes a piece of the cervical mucosa and submucous tissue, with a cut as clean as a razor cut. The specimen can be taken from the suspected spot with great precision, and more than one specimen can be taken from the patient if desired.



Uterine specimen forceps.

It is not necessary to dilate the cervix, or to use a volsellum forceps or an anesthetic. These specimens can be taken with great frequency during ordinary office examinations.

To the man who fears that the partial removal of a malignant growth might stimulate to active growth the part that remains, I suggest a procedure as follows: Prepare the patient for operation, remove one or more particles for examination, and then after the pathologist has given his report, begin the anesthetic.

The handle is 7 inches long. The part beyond the joint is 1¼ inches long. The disks are perfectly round, not oval, and are ¼ inch in diameter.

3905 Olive Street.

A NEW MOTOR-MEAL AND LAVAGE TUBE*

Frank Smithies, M.D., Chicago

Stomach-tubes, as ordinarily made, seem to have the following faults: (1) the inferior rubber in their construction, which prevents sterilization by boiling (the only efficient method); (2) small lumina, which frequently render unsatisfactory the aspiration or expression of motor-meals or poorly chymified test-breakfasts; (3) improperly placed, too few or too small fenestra at their distal ends; (4) the incorporation into the tubes of "aspirating bulbs" of questionable service, which are difficult to keep clean. In an effort to remedy some of these defects, we have had constructed tubes of the type to be described. They have given greater satisfaction than any other form in the last fifteen hundred cases in the Mayo Clinic in which the test-meal examination was made.

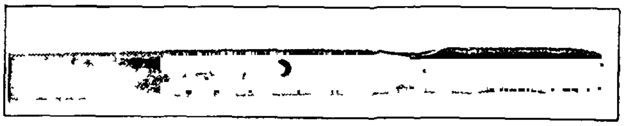


Fig. 1.—Distal end of tube, showing arrangement of fenestra.

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* From the Mayo Clinic.

The tube is constructed[1] of the best quality of red rubber. The wall is 2 mm. thick and the lumen has a diameter of 9 mm. The tube is made in two sections, distal and proximal, connected by a thin, but strong, aluminum midpiece.

1. The distal segment of the tube is 90 cm. long. It has a distal opening of 1 cm. diameter. Beginning 1 cm. from this tip is a lateral fenestrum (*Fig. 1*) of ellipsoid form, 2 cm. long and 1 cm. wide. On the opposite lateral surface to this is a second similar lateral fenestrum, which begins 3 cm. from the tip of the tube. The fenestrum is placed at this point, not only to permit free siphonage of gastric contents, but also to facilitate the introduction of the tube. Its location, 3 cm. from the tip of the tube, is the average distance in different individuals from the pharyngeal bend of the tongue to the introitus esophagi. When the tip of the tube enters the pharynx, with the second lateral fenestrum toward the tongue, the subject's swallowing motions promptly bend the tube at this fenestrum and the tip glides readily into the esophagus. Using a tube with a distal end of this type, we have not entered the larynx more than a dozen times in our last five thousand cases. Eight centimeters from the tip of the tube are placed three round fenestra, of a diameter of 2 mm. They pierce the tube at the same level. This distal segment of the tube, beginning 10 cm. from its tip, is marked off by encircling black lines (Fig. 2), every 5 cm. for a distance of 55 cm. from the distal end. These markings permit of fairly accurate location of obstructions in the esophagus. The tube, in such instances, acts as a hollow sound through which the contents of esophageal sacculations and the like may be readily secured.

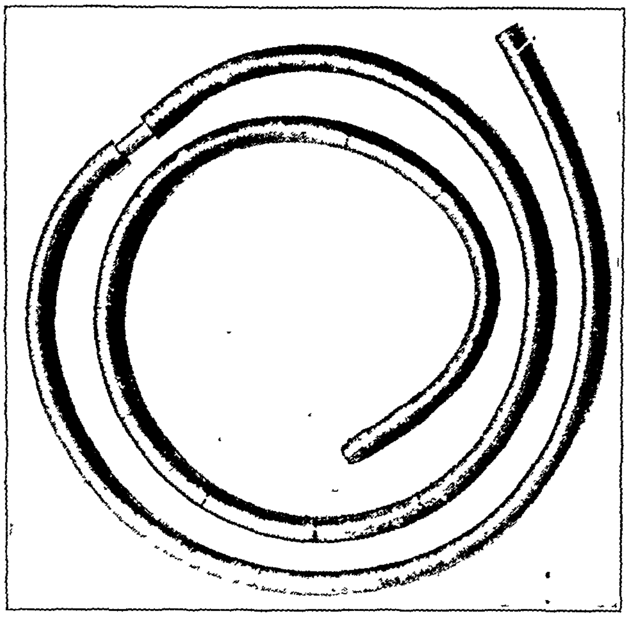


Fig. 2.—Full view of tube, showing segments, markings and fenestra on distal segment and aluminum midpiece (segments separated to show this).

2. The connecting aluminum midpiece is 5 cm. long, with a wall 1 mm. thick and a lumen of 1 cm. diameter. It is slightly roughened and fits snugly into the rubber parts. It is non-rusting.

3. The proximal end of the tube is 60 cm. long. It may be replaced, when necessary, by an aspiration bulb which fits onto the metal midpiece.

The advantages of the type of tube described appear to be:

1. These tubes are durable; they may be boiled for months and still retain their form.

2. The lumen is large enough to permit free expression or aspiration of retention contents after the administration of a motor test-meal.

3. The distal fenestra are so placed as to permit the easy passage of the tube and the rapid siphonage or aspiration of gastric contents. Free lavage is readily carried on, either for the purpose of determining retention (as in hour-glass stomach) or for therapeutic effect.

4. The tube acts as a safe and convenient esophageal sound.

5. The aluminum midpiece replaces easily broken glass connections. It enables one rapidly to convert the straight siphon or lavage tube into one of bulbed type for the purpose of inflating the stomach with air and when expression of gastric contents proves difficult.

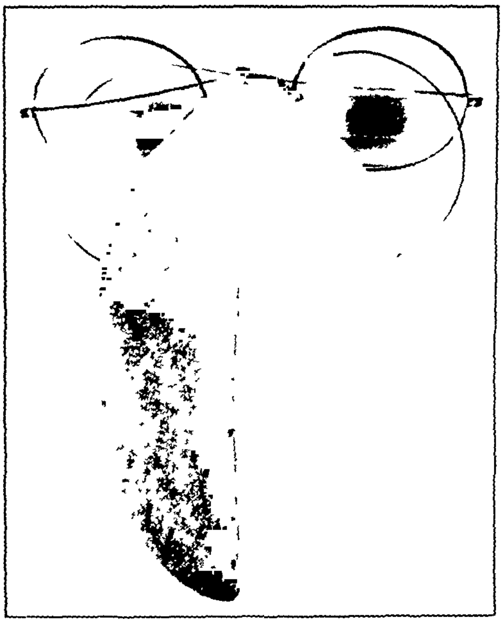
122 South Michigan Avenue.

A SIMPLE DEVICE FOR PROTECTION AGAINST INFECTION IN NOSE AND THROAT EXAMINATIONS

J. F. CROUCH AND C. A. CLAPP, M.D., BALTIMORE

Most devices which are used by the physician to lessen the danger of infection during examinations of the nose or throat are either so uncomfortable or so inconvenient that they are infrequently used. A very simple device which we have used with great satisfaction for several years consists of a pair of Jumbo-sized steel or aluminum spectacles with either plano or one's own correction for the lenses. To the nose-piece is fastened a piece of aluminum sheet which is bent to a V shape to allow room for the nose and extends downward to cover the mouth.

It serves to protect the eyes, nose and mouth from any spray and its great convenience in putting on or off, together with the ease with which it may be sterilized by boiling, would, I believe, make it popular with many.



Device for protection against infection in nose and throat examinations.

513 North Charles Street.

APPARATUS FOR INTRAVENOUS INJECTION OF NEOSALVARSAN IN CONCENTRATED SOLUTION

DAVID GEIRINGER, M.D., NEW YORK

Instructor in Genito-Urinary Surgery and Syphilis, Post-Graduate Medical School

This apparatus is recommended for the intravenous administration of neosalvarsan according to the method of Ravaut.

It consists of two 20 c.c. record syringes (*A* and *B*), two pieces of rubber tubing 3 inches long (*C, C*), one piece of tubing 1 inch long (*E*), a two-way valve (*D*) and a coupling for the needle (*F*).

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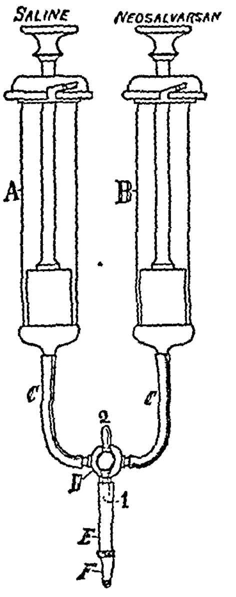
[1] These tubes are Goodyear make.

The syringe *A* is filled with normal saline. Syringe *B* is filled with the neosalvarsan solution, which is prepared by dissolving 0.9 gm. in 20 c.c. of freshly distilled water at room temperature. If smaller doses are used, correspondingly less water is employed.

Syringe *B* being filled with the neosalvarsan solution, it is connected with *one* inlet of the valve *D* by means of the rubber tubing *C*. The air is expelled by advancing the piston into the barrel until some of the solution escapes from the outlet of the valve. The handle of the valve should be in position 2.

Next, the handle of the valve is swung in position 1. The syringe *A* is filled with normal saline and connected with the valve *D*. The coupling and tubing are attached to the outlet of the valve. The air is expelled by injecting the saline into the tubing until it escapes from coupling *F*.

The needle, having been inserted into the vein, is connected with the syringes by means of the coupling *F*. The normal saline is first injected to determine if the puncture has been properly made. Usually 2 or 3 c.c. suffice. If the saline flows satisfactorily, the handle of the valve is swung back to position 2; this opens the way for the neosalvarsan, which is then very slowly injected, consuming from about five to eight minutes.



Convenient apparatus for the intravenous injection of neosalvarsan in concentrated solution.

The object in using the saline is to avoid injecting the neosalvarsan around the vein into the subcutaneous tissues, causing painful infiltrations which persist for a long time. Even in the hands of the most skilful, the needle sometimes pierces both walls of the vein or has not penetrated deeply enough, allowing the escape of the solution into the surrounding tissues.

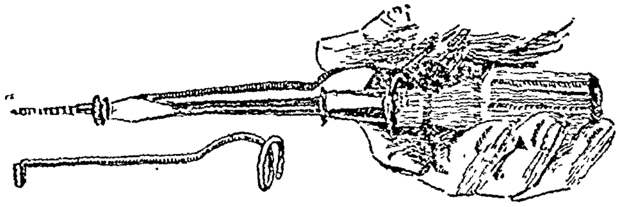
This apparatus is a very simple one and can be assembled at home. The valve can be obtained from any instrument dealer, while a No. 12 soft-rubber catheter suffices for the tubing. It can be used with any needle.

1186 Madison Avenue.

AN INEXPENSIVE SCREW-HOLDER FOR USE IN BONE-SURGERY

Gilbert L. Bailey, M.D., Oak Park, Ill.

A simple and inexpensive device for holding a screw in applying Lane bone-plates or fixing detached fragments of bone may be made of No. 13 copper-plated steel spring wire which can easily be bent and attached to an ordinary screw-driver, as shown in the illustration. The whole apparatus costs thirty cents and a little time, and I have found it of service in many bone cases.



Screw-holder for use in bone-surgery.

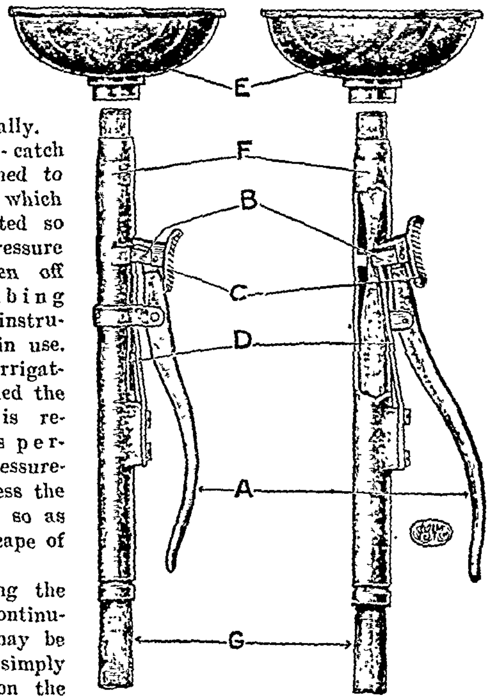
The wire clip holds the screw until it is well started in the desired direction in the drill-hole prepared for it and it is released by pressing the wire with the thumb at the handle.

IMPROVED CUT-OFF: A MODIFICATION OF THE INSTRUMENT USED WITH THE VALENTINE IRRIGATOR

S. Byron Goldsmith, B.S., M.D., Philadelphia

The accompanying illustration is that of a device which I have had constructed to facilitate urethral irrigations. It is a modification of the shut-off used with the Valentine irrigator. In irrigating the anterior urethra with the Valentine apparatus I found it difficult to manipulate for the reason that two hands are required to stop the flow of fluid after each washing. My own instrument requires the use of only one hand as the fluid can be shut off or turned on by simply operating the handle (*A*).

Within the metal casing (*F*) is a pressure-bar (*B*) which compresses the rubber tubing (*G*) by means of a strong steel spring (*D*). To allow the fluid to flow the handle is pressed down, thereby taking pressure off the tubing. When the anterior urethra is full, or when desired, the handle is released and the flow is shut off automatically.



Improved cut-off; a modification of the instrument used with the Valentine irrigator; *A*, handle; *B*, pressure-bar; *C*, thumb-catch; *D*, spring; *E*, shield; *F*, casing; *G*, rubber tube.

A thumb-catch (*C*) is attached to the handle which can be adjusted so that the pressure may be taken off the rubber tubing when the instrument is not in use. Before the irrigating can is filled the thumb-catch is released. This permits the pressure-bar to compress the rubber tubing so as to prevent escape of the fluid.

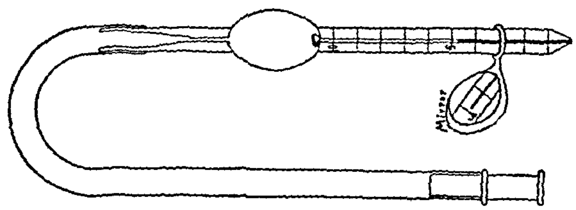
In irrigating the bladder a continuous stream may be obtained by simply pressing on the handle and adjusting the thumb-catch.

247 South Thirteenth Street.

SIMPLE ATTACHMENT FOR BLOOD-COUNTING PIPET

F. B. Schroeder, M.D., Princeton, Ill.

This attachment consists of a small mirror mounted on a split metallic clamp or ring, the bore of which is slightly smaller than the diameter of the pipet. This will allow of free movement of the mirror, which is held in place by the spring action of the split ring.



Mirror attached to blood-counting pipet.

By using this attachment the operator is enabled to observe the gradual ascent of the blood-column, and has no difficulty in obtaining the exact amount.

Therapeutics

PROTEIN POISONING—ANAPHYLAXIS—URTICARIA

(Continued from page 379)

DRUGS WHICH CAUSE ERUPTIONS

Urticarias, erythemas and scarlatiniform eruptions may be caused by belladonna, salicylic acid and arsenic or any of their salts or preparations, antitoxin, many of the volatile oils and drugs containing them (as copaiba, santal oil, turpentine), some of the synthetic compounds (as antipyrin, sulphonal, etc.), chloral, quinin and its salts, and opium and any of its alkaloids or preparations. These eruptions appear in some patients after a single therapeutic dose of any of these drugs; in others only when the drug is pushed, or when it has been given for some time. The frequency of idiosyncrasy against these drugs follows about the order in which they are named. Arsenic will rarely cause an eruption, unless it is pushed to full physiologic action. Some patients acquire a drug tolerance and no subsequent eruptions occur after the first dose or two. This is typically true of some persons who are susceptible to quinin.

Unless the drug is being pushed to full physiologic action with a definite object or a tolerance is expected and desired or the discomfort is unimportant, the drug should be stopped, a cathartic given, and soothing, bland mucous membrane sedatives should be administered, such as bismuth subcarbonate, sodium bicarbonate, milk of magnesia or slippery elm or flaxseed infusions. Even milk and starch-water are sometimes very efficient sedatives to the mucous membrane of the stomach and upper intestine if it has been irritated by a drug. Of course, it is possible that the drug has caused anaphylaxis and the irritant is already in the blood. Then the treatment consists of large amounts of water, a bland diet, alkalies such as potassium citrate, large doses of sodium bicarbonate, and perhaps calcium in some form.

Bromids and iodids frequently cause skin eruptions, occasionally after the first dose, but generally after a series of doses. An eruption quite generally occurs if these drugs are at all continuously given. Some patients, like epileptics or syphilitics, who are given large doses of bromids and iodids for a long time, become tolerant and do not have the skin eruptions, unless the dosage is very large. The iodid eruption is likely to be papular, but is rarely pustular. The bromid eruption is papular and frequently pustular, and the bromids may cause serious skin eruptions. It is sometimes thought that when arsenic is given coincidently with bromids this troublesome eruption is less likely to occur. It also should be remembered that if sodium chlorid is removed from or greatly reduced in the diet of the patient, such large amounts of bromids as were once given are unnecessary. Therefore, the eruption is less likely to occur. The iodids cause eruption less often than the bromids. The eruption from either drug rarely causes itching, but it takes some time for the eruption to disappear, even when the drugs have been discontinued.

The treatment of these eruptions is to stop the drugs, if possible, to cause thorough bowel elimination, to give hot baths or body bakes or electric light baths, and massage, as all tend to promote a more healthy condition of the skin. In fact, the bromid eruptions are less likely to occur if the skin is frequently cleansed and massaged during administration of large doses of the drug.

FEBRICULA

Some short-lived feverish conditions are still termed in medical books "febricula"; still, such a term only means an undiagnosed condition. A slight fever lasting but a day has been termed ephemeral; lasting several days, a febricula. Probably the majority of the feverish attacks which occur more frequently in children are due to some protein poisoning combined with an intestinal upset, and the condition caused is an anaphylaxis. They may be abortive attacks of an exanthem, or, in children, short attacks of glandular fever. They are not infrequently caused by a folliculitis of the nasopharynx, which not being readily seen, is not diagnosed. Inflammation of the adenoid tissue in this region may also cause a febricula. Such patients generally recover rapidly under any treatment, but, if possible, a diagnosis should be made and the proper treatment given.

URTICARIA

It is astonishing that most books on medicine give no description of this condition or of its treatment, though they mention it as a symptom in certain conditions, such as liver disturbance, etc.; but its discussion should be no more limited to books on diseases of the skin than the eruption of measles should be. Urticaria is not a skin disease, although it may be aggravated by certain skin conditions and perhaps also developed by certain disturbances, either vasomotor or of the nervous system.

The name "giant urticaria," sometimes used as a synonym for angioneurotic edema, should be reserved for serious large and changeable localized swellings. An angioneurotic edema may occur frequently or be present every morning, in a patient's hands for instance, but ordinarily carries with it no probability of danger. When it is distinctly localized and does not move from place to place, it may be due to a neurosis of the vasomotor system causing a local dilatation and exudate, with perhaps associated contraction of other vessels. It is a chronic condition and requires long-continued neurotic and nutritional treatment of the patient, although some gastro-intestinal disturbance may be present. Giant urticaria, on the other hand, is a serious, dangerous affection, especially if it attacks the face and mouth, as, when present, it is likely to do at any moment, and dangerous swelling in the throat and larynx may occur. This condition should be treated energetically, and the patient should be under close observation.

The treatment of giant urticaria is catharsis with calomel and saline cathartics; a milk diet, if milk agrees with the patient; or a plain water diet; or a cereal diet. Calcium should be given, and alkalies in large doses. Occasionally, large doses of quinin, such as 60 cg. (10 grains) twice a day, or good-sized doses of antipyrin, as 1 gm. (15 grains) three times a day, have seemed almost specific. Atropin pushed to physiologic action is sometimes of value. The exact cause of this serious condition has not been determined. Doubtless, however, it is anaphylactic and due to protein poisoning.

The causes of simple urticaria are food (protein) poisoning, intestinal parasites, poisoning by certain drugs, disturbances of the liver or kidneys, gout, conditions associated with an increased amount of uric acid in the urine, constipation, an abnormally dry skin, and, in fact, anything that impedes normal elimination. Circulatory disturbances, especially when combined with high blood-pressure or arteriosclerosis, may be factors in causing urticarial eruptions.

Urticaria may occur, however, from almost any feverish condition or from any infection, and simply becomes, then, an added symptom. Most frequently urticaria is the most important symptom, and from its intense itching is the cause of the patient seeking medical advice.

The treatment of simple urticaria has been suggested, namely, catharsis, a limited milk or cereal diet, large amounts of water, the administration of alkalies, such as potassium citrate in 2 gm. (30 grain) doses, given four or five times in twenty-four hours, or some other alkali, if preferred. Potassium citrate may be given as follows:

		Gm. or c.c.		
℞	Potassii citratis	40	or	℥ i
	Aquae gaultheriae	200		fl℥ v

M. Sig.: Two teaspoonfuls, in water, every four hours.

If it is known that the stomach and intestines have been irritated, bismuth subcarbonate and sodium bicarbonate should be administered, and, if the patient does not quickly recover, some form of calcium.

The patient should be kept cool. Thin and nonirritating underwear should be used. If the patient is a child or one in whom the condition tends to recur, linen or silk underwear should be worn. Warm baths, the water made alkaline with sodium bicarbonate, are soothing to urticarial patients, and will relieve the itching. The skin should not be rubbed, but should be mopped, lest the drying process cause irritation and more itching. The localized spots may be sprayed with alcohol, cologne, or even mild acid applications, such as vinegar. Phenol solutions have long been used to dull the irritability of the peripheral nerves; a 2 per cent. solution, with or without glycerin often suffices, as:

		c.c.		
℞	*Phenolis liquefacti*	4		♏ xlv
	Glycerini	25	or	flʒ v
	Aquae menthae piperitae ....q. s. ad	200		fl℥ v

M. Sig.: Use externally as a lotion.

[The preceding should be well shaken and should be labeled as poison.]

Sometimes such applications as "extract of witch-hazel" or a bland oil like almond oil will be soothing to the irritated skin. If the urticarial spots are not in large numbers, such applications as camphor or chloral, with or without menthol, are often valuable, as:

		Gm. or c.c.		
℞	Camphorae			
	Chlorali hydrati .....āā	2	or	ʒ ss
	Glycerini	25		fl℥ i
	Alcoholis........q. s. ad	100		fl℥ iv

M. sig.: Use externally. [Shake, and label as poison.]

		Gm. or c.c.		
℞	Camphorae			
	Chlorali hydrati .....āā	2		ʒ ss
	Mentholis	1	or	gr.xx
	Glycerini	25		fl℥ i
	Alcoholis........q. s. ad	100		fl℥ iv

M. sig.: Use externally. [Shake, and label as poison.]

Various dusting powders are often of benefit, especially in children suffering from this condition. The simplest is powdered starch or a talcum powder. Sometimes stearate of zinc, with or without menthol, is of value as tending to adhere to the region that is irritated.

When urticaria continues or recurs, as it does occasionally in its milder forms, the whole physical condition, diet and personal hygiene, of the patient must be very carefully investigated. Some wrong condition will be found and when it is corrected the disturbance will disappear. Especially must the intestinal digestion be studied and the urine tested for indican. If constipation or indigestion is sufficient to cause indican to appear in the urine, measures to prevent the absorption of the irritants will generally cure the urticaria. Occasionally in young or older persons in whom a high tension or arteriosclerosis has begun or who have insufficient kidneys, conditions of the skin exist that cause temporary reddening, and perhaps itching, with the least irritation.

The skin may be so hypersensitive as to allow of what is termed "dermographia." This condition is a pseudo-urticaria, and the treatments that tend to relieve urticaria will generally relieve this condition.

When there are angioneurotic edemas, a diminution of the sodium chlorid in the food will often be a valuable adjunct to the other treatment inaugurated. This is especially true if the kidneys are at all insufficient.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

SEROBACTERINS.—Serobacterins are emulsions of bacteria which have been treated by the application of the corresponding specific immune serum.

Actions and Uses.—Bacteria so treated are supposed to contain specific amboceptors so that immediate union with the complement of the patient's serum is said to occur. Hence, their action is supposed to be more rapid than that of ordinary vaccines. They are also said to be free from the negative phase and the general and local reactions produced by ordinary vaccines.

The immune serum is obtained from goats or other animals that have been treated by the injection first of dead and later of living cultures of bacteria until the blood-serum shows a high titer of agglutinins, opsonins and other specific amboceptors. The bacteria are treated by mixing a filtered emulsion of twenty-four hours' growth of the bacteria on agar, the bacteria having been killed by heat, with the corresponding immune serum. The mixture is left for twenty-four hours at laboratory temperature (not exceeding 24 C.) with frequent shaking. Sufficient sterile saline solution is then added, and the mixture centrifugated for from five to six minutes. The supernatant fluid is removed, more saline solution added and the mixture again shaken and centrifugated. The supernatant fluid is again removed, and the bacteria are counted and standardized in the ordinary way. Since there is a possibility of the living bacteria producing infection, the sensitized bacteria should be killed either by heat or by disinfection.

Tests.—Complement-fixation tests have been applied for the purpose of ascertaining the extent of combination of the amboceptors of the serum with the bacteria. This seems to be the best available method, but a reliable quantitative method is still to be worked out.

H. K. Mulford Co., Philadelphia.

Staphylo-Serobacterin Mulford.—(Sensitized Staphylococcic Vaccine.)—Each package contains four syringes of Staphylo-Serobacterin graduated as follows: syringe A, 500 million killed sensitized staphylococci; syringe B, 1,000 million killed sensitized staphylococci; syringe C, 2,000 million killed [illegible]; syringe D, 4,000 million killed sensitized [illegible]

Strepto-Serobacterin Mulford.—(Sensitized Streptococcic Vaccine.)—Each package contains four syringes of Strepto-Serobacterin graduated as follows: syringe A, 250 million killed sensitized streptococci; syringe B, 500 million killed sensitized streptococci; syringe C, 1,000 million killed sensitized streptococci; syringe D, 2,000 million killed sensitized streptococci.

Typho-Serobacterin Mulford.—(Sensitized Typhoid Vaccine.)—Each package contains four syringes of Typho-Serobacterin graduated as follows: syringe A, 250 million killed sensitized typhoid bacilli; syringe B, 500 million killed sensitized typhoid bacilli; syringe C, 1,000 million killed sensitized typhoid bacilli; syringe D, 2,000 million killed sensitized typhoid bacilli.

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SATURDAY, FEBRUARY 7, 1914

PROTEINS AND NUTRITION

In an exceptionally stimulating address before the New York Academy of Medicine, which was reported in some detail in THE JOURNAL,[1] Graham Lusk remarked, quite in harmony with the up-to-date ideas of nutrition, that proteins are especially valuable if they contain an array of constructive units, which, when reunited in the body, form body proteins. Proteins in which one or more of the necessary units or *Bausteine*, as they are now frequently designated, are lacking, can never be reconstructed into perfect body proteins. Professor Lusk adds that such inferior proteins are found in plants. Plant proteins are reconstructed by herbivorous animals into beef proteins, and thus, we are assured, beef proteins attain a higher biologic value than plant proteins. "There can be no doubt, in view of the results of experiment, that meat, fish, milk and egg proteins possess superior value to the vegetable proteins."

It is quite true, as physiologic chemists have demonstrated, that certain proteins, like gliadin and zein, of plant origin, are deficient in some of the groups that characterize the so-called "complete" proteins. Furthermore, we may be prepared to believe from the nutrition experiments notably of Abderhalden, Osborne and Mendel[2] that the animal organism is incapable of synthesizing some of the amino-acid units like tyrosin, tryptophan and phenylalanin *de novo*. Nevertheless, one cannot refrain from the inquiry whether any sweeping condemnation of the plant proteins in the sense here discussed is in reality justified. Whence do the animals that furnish us with beef and milk and egg foods derive some of these essential units if not from plant sources? Until evidence to the contrary is forthcoming we must assume that the herbivorous animals are quite as incompetent to synthesize certain of the units needed for their body proteins as is man. Will it ever become possible for man to obtain all the essential components conveniently or economically directly from the plant sources in ways that are not at present feasible?

A new field for consideration is opened up by the suggestion of Friedenthal, to which we referred last week,[3] that by suitable comminution of those parts of plants which are rich in protoplasmic constituents it may be possible to furnish, in a more available form, types of nutrients in the green vegetables which evade digestive usefulness in the current dietary practices. The vegetable proteins about which, thanks especially to the work of T. B. Osborne and his collaborators in this country, we are best informed, have been derived largely from the reserve tissues of plants — seeds, etc. Not until more facts are available about the proteins of other parts of plants will any final pronouncements of physiologic values be completely justified. Only in very recent times has the protein of the potato been disclosed as a food material of unexpected nutritive efficiency.[4] We are not advocating vegetarianism, but we believe it is too early to foresee what a more extensive investigation in the domain of plant-protein chemistry may disclose. With the growing scarcity and increasing cost of animal products, it behooves us to study exhaustively every scientific means by which the necessity of securing the essential nutritive units through the expensive intermediation of the plant-eating animals may be obviated. Hitherto some of the vegetable products have been considered by physiologists almost entirely from the point of view of their significance as accessories to the dietary of man. The investigations of Strauch,[5] which indicate that even the green parts of plants notably rich in indigestible cellulose may become nutritively useful to man, may lead to new discoveries. Dietary prejudices are slow to be overcome, though it must be admitted that not infrequently they conceal unsuspected elements of physiologic wisdom.

A FOREIGN IMPRESSION OF AMERICAN HOSPITAL SOCIAL SERVICE

There is a certain satisfaction to be derived from the praise, however qualified it may be, that comes to us from foreign shores. This is particularly true with respect to things medical, in the organization and conduct of which America has, as yet, done little more than serve an effective apprenticeship. Germany has so long been held before our eyes as a model of the best in everything pertaining to the activity of the physician and the therapeutic world in which he lives, that a word of commendation from German sources is gratifying. The development of the system of hospital social service, introduced at the Massachusetts General Hospital in Boston in 1905 and since then widely followed throughout the larger cities of the United States, has lately been pleasingly referred to in a magazine devoted to the interests of women in Germany. Mrs. Strauss,[1] wife of the Berlin clinician Prof. Hermann Strauss, calls attention to the evolution of the system of hospital service in this country, its aims and accomplishments, and contrasts it with the less progressive beginnings which are to be found in the hospitals of Europe. We must confess that there is much in her complimentary review that deserves to be brought forcibly to the attention of American women to whose care the execution of these non-medical aspects of hospital activity must inevitably be committed.

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[1] Lusk, Graham: The Fundamental Basis of Nutrition; abstr., THE JOURNAL A. M. A., Dec. 27, 1913, p. 2317.

[2] Mendel, L. B.: The Rôle of Proteins in Growth, Tr. Fifteenth Internat. Cong. Hyg and Demog., 1913, ii, 429.

[3] The Availability of Nutrients from Plant Sources, editorial, THE JOURNAL A. M. A., Jan. 31, 1914, p. 380.

[4] Hindhede, M.: Untersuchungen über die Verdaulichkeit der Kartoffeln, Skand. Arch. f. Physiol., 1912, xxvii, 277.

[5] Strauch, F. W.: Fein zerteilte Pflanzennahrung in ihrer Bedeutung für den Stoffhaushalt, Ztschr. f. exper. Path. u. Therap., 1913, xiv, 462.

Social service has been defined as the application of sound common sense to the end of making the sick well. To this we may add that it is necessary also to keep them well and capable of earning a living, and to avert any recurrence of disease. Besides the physician, who is brought into the closest contact with a patient, few persons realize what manifold factors play on the life of the sick — particularly the needy sick or those on whom others are dependent — and hamper the progress of returning health by the mental influences which they exert on the patient. It thus becomes the duty of the social service worker to investigate the conditions of living and employment, the family relationships and responsibilities of those who have succumbed to severe illness, and by assuring suitable care and protection to the family, uninterrupted maintenance for a threatened home, or the continuance of a wage-paying employment, to bring healing comfort to the helpless. The physician needs no demonstration of the helpful therapeutic effects which follow the establishment of "peace of mind" in a worried patient; and frequently the establishment of a correct diagnosis is facilitated on removal to a hospital by the patient's relief from the mental strain due to his environment and obligations. Other features of enforced confinement in the sick-room also demand the grateful ministrations of the social-service devotee. The patients need to be entertained and encouraged, and to have occupation for the long hours of convalescence. They need, not infrequently, to be prepared for the new occupations sometimes made necessary by injury or the ravages of disease. Their life after release from the hospital must often be completely altered to meet new conditions.

Mrs. Strauss points out that the universal workingman's insurance and compensation acts introduced by the German government have rendered certain features of the hospital social service of less immediate necessity in Germany. This entire field of social and humanitarian endeavor has only begun to be cultivated. Successful methods have yet to be developed to meet constantly changing economic conditions and hygienic innovations. The day must come when every American hospital will possess its social service department.

A NEW METHOD OF INVESTIGATING THE CIRCULATING BLOOD

There are numerous substances, both among those which take part in the normal metabolic transformations of the organism and among those which are present by some fortuitous circumstance, that traverse the body in the circulating blood in quantities too small to be isolated or measured satisfactorily. The rapidity with which compounds that enter the circulation again escape, either by transference to the tissues or by excretion through various channels, has hitherto made it almost impossible to follow them in their migrations in the body. In various discussions regarding the fate of absorbed amino-acids, for example, we have pointed out how difficult it has been until quite recently to secure *competent evidence that these protein derivatives actually* ever pass the alimentary barrier and circulate as such; for at any moment a given specimen of blood withdrawn at any point of either the portal or systemic circulation could contain at best only traces of the substances searched for. In the course of hours the continually renewed blood-stream can, of course, carry very large quantities of products from one region to another in the body, though at any moment the concentration of the material in question in the blood may be exceedingly small. The removal of large specimens of blood from living persons for analysis is not compatible with normal functioning; hence such a procedure is likewise precluded. Physiologists have time and again conjectured that certain compounds must arise as intermediary products in the transformations of the ingesta in metabolism; but owing to the inherent difficulty of detecting them, as just rehearsed, it has been impossible to verify the hypotheses. For the most part it has been necessary to content ourselves with a definite appreciation of the beginning and the end, with the intake and the final output product, and to test the theory of the mechanism of this conversion by indirect modes of experimentation. There are few physiologic substances, not to mention abnormal components of the organisms, for which we are able at present to describe the chemical form in which they travel in the body. The physician who administers a drug is in many instances left to judge by somewhat indefinite responses whether or not it has penetrated to the tissues or organs that he has hoped to influence; and the pharmacologist entrusted with a more accurate and reliable determination of the same question has been obliged in many instances to depend on criteria scarcely less crude. Particularly in the case of agents which act in very small dosage it is rarely possible to be certain that the drug actually enters the circulation or that a given concentration of it is distributed, unless some definite response, like an obvious cardiac, neuromuscular or secretory response, is elicited.

At the International Medical Congress in London last summer and later at the International Physiological

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[1] Strauss, Elsa: Soziale Fürsorge in amerikanischen Krankenhäusern, Monatschr. *Die Frau*, 1913, xxi, No. 3.

Congress in Groningen, Abel, Rowntree and Turner[1] of the Johns Hopkins Medical School gave a brilliant demonstration of a method which will remove from the flowing blood traces of substances present in only minute quantity at any one time. It consists of a process by which the blood of a living animal may be submitted to dialysis outside the body, and again returned to the natural circulation without exposure to air, infection by micro-organisms, or any alteration that would necessarily be prejudicial to life. The Baltimore investigators have referred to the method as "vividiffusion." Essentially, it consists in connecting an artery by a cannula to a tube or series of tubes made of celloidin or other suitable dialyzing membrane and immersed in a saline solution or artificial serum. The return of the blood to the animal's body is provided for by another cannula attached to a vein. In this way the blood leaving the artery flows through a perfectly closed system and returns to the body within a minute or two, while the diffusible substances which it contains can pass out, more or less rapidly, through the walls of the tubes. The condition is not widely different from what may be conjectured to prevail naturally in certain regions of the intact circulation, except that in the artificial schema the products of diffusion can be withdrawn and examined at will. As an instance of what can be accomplished, it may be cited that an anesthetized dog was kept alive during a dialyzing period of sixteen hours, with about one-third of its blood outside the body.

Experience thus far gathered indicates that this process of "vividiffusion" may be allowed to proceed for several hours without inducing any untoward effects or injuring the animal in any way. The blood is then returned completely to the donor. The apparatus has been termed an artificial kidney, because it can remove certain products from the circulation precisely as does the natural kidney. It differs from the latter in that it makes no distinction between the diffusible constituents.

Any component like sugar, etc., can be retained, however, by a simple expedient. When foreign substances like salicylates are introduced into the individual they can be recovered from the diffusate quite as readily and in as large amounts as those which are normally removed by the renal excretory apparatus. The fact that the application of the apparatus is not prejudicial to life leads the investigators to suggest the more remote possibility that during numerous toxic states in which the eliminating organs, more especially the kidneys, are incapable of removing from the body at an adequate rate, either the native or the foreign substances whose presence in excess is detrimental to life processes, the vividiffusion method may find application. Human therapeutics might thus be able to provide a substitute in such emergencies and tide over dangerous crises.

For the present the value of the method consists in the light which it promises to shed on the little-known diffusible substances normally present in the blood and on the nature of certain intermediary stages of metabolism. A field of investigation is further opened in the comparative study of the blood flowing to and from various organs with reference to the substances which they extract from, or add to, the general circulation. The possibility of thereby detecting the nature of some of the internal secretions or active principles of glandular organs at once is suggested. Now that a procedure is available for accumulating the non-protein nitrogenous constituents of the blood other than urea in any desired amount, we may look forward to details which will give a new picture of the composition of the circulating fluid of the body in health and in disease.

"RELIGIOUS DAILY" RESORTS TO FALSEHOOD

By this time the medical profession and the public have become thoroughly familiar with the fact that the lie indirect is the favorite tool of the antivaccinationist, the antivivisectionist, and all the rest of the militant perjurers who misdirect the ideas of their followers and who attempt to mislead the public. Unfortunately, it is not so easy for the layman to recognize this form of deceit, and hence the success of this method in leading him astray. The person who so garbles a quotation that even the fair-minded reader is misled into believing the author to stand for things that he really most strongly opposes can be ranked only with the most contemptible of moral delinquents. A typical and most pernicious example of this repulsive form of dishonesty was perpetrated by the *Christian Science Monitor* of Friday, January 23, and marked copies of this publication have been scattered with prodigal liberality throughout the country. We are not informed what unselfish philanthropists furnished the necessary funds to finance this broadcast distribution, but evidently there are persons or organizations willing to spend money in an attempt to convince the public that consumption is not dangerous.

The article is based on our editorial of January 3, reviewing the address of Dr. E. R. Baldwin, in which he emphasized the importance of infection in childhood in the production of pulmonary tuberculosis, and expressed the conviction that there is very little danger of adults acquiring a new infection from contact with consumptives. By quoting from this editorial with quotation marks, carefully omitting essential qualifying phrases, and then drawing his own unwarranted conclusions, the writer in the *Monitor* skilfully conveys the impression that the medical profession has finally determined that tuberculosis is not a transmissible disease, that it is a rank waste of public money to build hospitals for consumptives, that the publicity campaign "was ostensibly intended to warn the public against the ravages of the disease," and that it "has served only to spread in the thought and hearts of hundreds of thousands a paralyzing fear that never should have been created."

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[1] Abel, J. J.; Rowntree, L. G., and Turner, B. B.: Removal of Diffusible Substances from the Circulating Blood by Means of Dialysis, Tr. Assn. Am. Phys., 1913; the details are published in Jour. Pharm. and Exper. Therap., 1914, v, 275.

We print below the quotation, not as printed in the *Monitor,* but resupplying in brackets the very essential phrases which the garblers so carefully left out.

"Adults are very little endangered by close contact with open tuberculosis, and not at all in ordinary association. [Childhood is the time of infection, youth the time of superinfection, and that from extension of the primary disease.] Qualify these statements as we may, it is time for a reaction against the extreme ideas of infection now prevailing. There has been too much read into popular literature by health boards and lectures that has no sound basis in facts, and it needs to be *dropped out or revised.* [More protection of children and better hygiene for adults are logically demanded, but beyond this] the preachments about the danger of infection to adults in the present state of society are without justification from an experimental standpoint. [The statements which we have quoted] represent not one man's views, but what seems to be the growing conviction of [many of] the most progressive and thoughtful students of tuberculosis at the present time."

As will be at once evident, the elisions in brackets entirely alter the statements made by Dr. Baldwin. No one capable of understanding the paragraph as given in full would see in it any grounds for attacking the building of tuberculosis hospitals, or of reducing in every possible way the spread of tubercle bacilli, especially in the home and in public places, where children, with resistance as yet not developed, may readily acquire an infection more extensive than they can possibly overcome. Yet, in the year 1914, with the enormous reduction in the tuberculosis mortality an absolutely established fact throughout the civilized nations following sanatorium treatment and public health methods for restriction of the disease, there are still persons whose minds are so warped and atrophied by religious fanaticism that they would attack and endeavor to abolish all these safeguards of the health of both sick and well. And in their efforts to do so, they do not hesitate to misrepresent and deceive their readers and the public.

TOBACCO-SMOKING AND THE CIRCULATION

It cannot be said that there is a dearth of literature on the relation of tobacco-smoking to health. The data available are, however, tinged in large measure with all manner of biases; and even where the subject has been approached with an "open mind," there is no guarantee of sanity in the conclusions which have been reached. The circulatory mechanism of man is continually played on by conflicting impulses, so that the conditions of blood-pressure and pulse-rate that prevail from time to time may be the outcome of regulatory influences and directive forces so diverse and changeable as to defy the powers of immediate interpretation. Here, as elsewhere in medicine, many an error of conclusion has been committed because of inability to distinguish the causal factor from a large number of variable agencies. We recall that R. C. Cabot has rejected the evidence that alcohol, for example, is so potent an influence in causing degeneration of the blood-vessels as has been frequently argued. To quote a recent writer, "in a middle-aged man who has drunk freely, eaten largely and worked hard, it is impossible to say which of these factors is responsible for the degeneration of his blood-vessels." In view of the foregoing it is not strange that Osler should remark that tobacco is another poison about which it is very difficult to get conclusive evidence.

The modern equipment of the clinical laboratory has made it possible to study certain phenomena with a degree of precision formerly unknown. Accurate determinations are incomparably safer guides to convincing conclusions than guess-work impressions, which are still so largely (and necessarily) the characteristic stock in trade of the clinical observer.

Dr. John,[1] in the clinic of Volhard at Dortmund, has made a recent study of the influence of tobacco-smoking on the circulation. The question at issue involves the effect on the blood-vessels of continued smoking to a degree not productive of obviously toxic phenomena.[2] At the outset it may be admitted on the authority of the hygienist Prof. K. B. Lehmann of Würzburg that, aside from the alkaloid nicotin, the other constituents of tobacco-smoke, namely, carbon monoxid, hydrogen sulphid, hydrocyanic acid, pyridin and its homologues, are without toxic importance in the concentration and under the conditions in which they are ordinarily manifested in smoking. The debate on the cigar versus the cigarette, on "strong" versus "mild" cigars remains untouched.

Dr. John's blood-pressure measurements indicate that the smoking of two "medium" cigars evokes characteristic alterations in arterial pressure in typical cases. Even during the act of smoking there may be evidence of undeniable rise in diastolic pressure, and the effect may persist for as long as two hours. The essential feature in the nicotin effect on the vasomotor apparatus consists in a constrictor stimulus to the vessels which results in increased tonus. The behavior of the pulse-rate is variable. Eight or ten Russian cigarettes give a vasomotor result comparable with two "medium" cigars. Cigars of low nicotin content do not produce a recognizable effect on the circulation.

Despite the interfering complications attributable to pressor and depressor influences, which enter in diverse ways into the daily routine, the smoking of from eight to ten cigars, or from twenty-five to thirty cigarettes during the course of the day is by no means negligible, if we may believe the statements made by John. The widely current impression, based in part on experimental investigations, that nicotin can produce vascular alterations in the sense of sclerotic changes is thus confirmed. We may argue as we will that habitual smokers have consumed extraordinary quantities of tobacco over long periods without signs of vascular change, and that it is difficult to believe that tobacco can, as a rule, have any important influence beyond what the ordinary wear and tear of life itself would warrant. Nevertheless, we are in duty bound to take cognizance of careful blood-pressure measurements and to consider seriously the advisability of extreme moderation in smoking, to say the least, in conditions where the familiar untoward possibilities are threatened. Indifference to scientific evidence is an intolerable attitude.

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[1] John, H.: Ueber die Beeinflussung des systolischen und diastolischen Blutdrucks durch Tabackrauchen, Ztschr. f. exper. Path. u. Therap., 1913, xiv, 352.

[2] Nicolai, G. F., and Staehelin, R., *Ueber die Einwirkung des* Tabackgenusses auf die Circulationsapparate, Ztschr. f. exper. Path. u. Therap., 1908, viii.

EVASION OF ENTRANCE REQUIREMENTS TO MEDICAL COLLEGES

Those familiar with conditions in some of the medical colleges of Chicago will not be surprised at the "story" which appears this week in our Medical Education Department.[1] The investigation shows that fraudulent credentials of preliminary education, secured through a local institution, have been accepted by a Chicago medical college. The fact that this story centers around one school is merely incidental: the information which led to the investigation pointed quite as much to two other local colleges as it did to the one in question. The acceptance of questionable entrance credentials prevails to a greater extent in Chicago than elsewhere, although makeshifts if not fraudulent devices for admitting medical students whose qualifications are below the standard are employed in probably two or three other cities. Not only are these efforts to nullify the medical practice act or the rules established by state boards dishonest, but also they work a serious injury to the medical student, who is laying a foundation for his life's work. He is led to believe that he has a satisfactory and adequate preliminary training, when he is, in fact, entirely unprepared for the complicated and difficult course in medicine which is to follow. He is permitted and encouraged to enter a medical college with inferior qualifications, when he should be spending his time in securing the proper foundation for his medical course. By the time he has realized his deficiencies, it is too late for him to go back and make up his shortcomings. As a result, he is handicapped throughout his professional career, the medical profession is burdened with another half-trained member and the public is endangered through a physician whose training is not what it should be.

The necessity for thorough preliminary training as a condition for admission to the modern medical college cannot be too strongly emphasized. There may have been a time when a knowledge of the three R's was sufficient for the medical student. That time, fortunately for the public, is past. In recognition of this fact, efforts are now being made by the proper authorities in practically every state to raise the standard of entrance requirements for medical colleges and to require one or two years of college work, in addition to a standard high school course. The medical colleges themselves, in the main, are endeavoring to elevate their own standards. Approximately seventy of the one hundred and six medical colleges in the country are now requiring one or two years of college work in addition to a high school course. In all of the states, a four-year high school course, or its equivalent, is properly regarded as the lowest educational preparation which can be accepted from any prospective medical student. Yet in Chicago some of the medical colleges are not enforcing even this minimum requirement, but are accepting credentials based on little or no actual work. Such a practice is not only an evasion of the law, it is unfair to the medical student, the profession and the public. On whom rests the blame? While the moral responsibility may rest on the colleges implicated, it must be remembered that commercial medical colleges are conducted for gain and not for altruistic purposes, and that so long as such colleges exist, so long as they are dependent for their support on student fees, and so long as no effective control is exercised over them, just so long will such practices continue.

The blame and the responsibility clearly rest on the officials appointed by the state to safeguard the rights and interests of the public in such matters, namely, the state licensing board. This board constitutes the only barrier between the public and the incompetent physician. It is not compelled to adopt detective methods to secure the facts. It is not necessary for it to carry on any lengthy investigation. It can demand detailed information concerning the schools attended and the credentials presented by every student who enters these medical colleges; and it is the only body that can legally make such a demand. Meanwhile, the fact that the conditions referred to exist in Chicago should not be considered a reflection on the recently appointed state licensing board of Illinois. It is hoped that this new board will perform its duty in a conscientious manner, and that the people of the state may not look to it in vain for protection against these credential mills and against illiterate and unqualified physicians.

Tuberculosis in the Army in 1912.—According to the *Army and Navy Journal*, the highest rate for tuberculosis in the army barracks for the calendar year of 1912 occurred at Vancouver and Fort Flagler, Wash. At Vancouver there were twenty-three cases with a rate of 17.87 per thousand; at Fort Flagler, a rate of 13.25 per thousand. Of 273 cases of tuberculosis in the Army in 1912, seventy-three, and in 1911, out of 258 cases, sixty-eight were detected in the first year of service.

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[1] See page 477

Current Comment

KNOWLEDGE VERSUS SUPERSTITION

The statement has been frequently made, by those who are endeavoring to utilize all of our present-day scientific knowledge for the prevention of disease, that Christian Scientists both as individuals and as an organization are doing everything in their power to obstruct the public health movement. This has been strenuously denied by the leaders of this cult. Elsewhere we comment on the dishonorable methods used by the *Christian Science Monitor* to misrepresent the position of THE JOURNAL and of the medical profession regarding consumption. If the garbled and distorted "quotation" which the *Monitor* tried to make its readers believe was taken from THE JOURNAL of the American Medical Association had been given only the circulation which the *Monitor* itself enjoys, comparatively little harm would have resulted. But it develops that the misrepresentation and editorial dishonesty of the *Monitor* was only a part of a carefully conceived plan for misleading the general public. A large number of copies of the *Monitor* containing the discreditable article have been sent broadcast, especially to the newspapers. These were specially printed with heavy black rules at the sides to call attention to the article. How many of these marked copies have been sent it is impossible to say, but copies have been pouring in to the Association office from physicians and newspapers all over the country. With this positive evidence of deliberate and intentional misrepresentation and falsification on the part of the *Monitor*, and of carefully laid plans to give such deceptive material the widest publicity possible on the part of the leaders of the Christian Science Church, it is impossible for this sect to disavow any longer its deliberate purpose to obstruct and hamper in every way possible the campaign for the prevention of disease and the saving of human life. THE JOURNAL of the American Medical Association and the scientific medical profession of the country are perfectly willing to join battle on this issue with the fanatical adherents of reactionary religious beliefs based on antiscientific mysticism. We have no fear as to the verdict of public opinion when the case is tried between triumphant and ever-advancing scientific knowledge on one hand, and superstition and ignorance on the other. This battle has been fought many times before in past ages, and scientific truth has always been victorious. We regret, however, that the ignorance of the *Monitor* on the subject of consumption is equaled only by its lack of editorial honesty, else it would not have attempted the manifestly foolish effort to put THE JOURNAL in a false position by so stupid a device as that of a garbled and mutilated quotation.

THE EARLY HISTORY OF INFANTILE *POLIOMYELITIS*

Dr. Werner Leo[1] of Charlottenburg has recently given an interesting historical summary of the Heine-Medin disease, from which we glean the following facts: The date usually assigned for Heine's original description of the disease is that of his celebrated monograph of 1840, with its memorable illustrations, the second edition (1860) first introducing the term "infantile spinal paralysis" (*spinale Kinderlähmung*). It appears, however, that Heine had already rendered a short but definite report of the disease to the medical section of the Society of German Naturalists and Physicians in 1838, presenting a case in a 12-year-old girl. But even before this, Dr. John Badham[2] of Worksop, England, had published "Four remarkable cases of suddenly induced paralysis in the extremities occurring in children, without any apparent cerebral or cerebrospinal lesion." These are all well-authenticated cases of infantile paralysis in 2-year-old patients, occurring at close intervals of time in the same locality. Three of these cases had been seen by the author's father, the well-known Dr. Charles Badham of London, whose little book of 1808 is the first account of bronchitis, the term having been introduced in his second edition of 1814. Thus the name of Charles Badham is now associated with the original description of two new forms of disease. It appears that Heine, on page 27 of his monograph of 1860, had already noted the possibility of the contagious or epidemic character of infantile paralysis. The next delineations in order of time were those of the French pediatricians, Rilliet and Barthez; but Charcot's masterly description of 1870, with full necropsy,[3] is the most important. In the summer of 1887, O. Medin observed the first epidemic incidence of the disease (forty-four cases) in the city of Stockholm. Flexner's observations on the experimental production of poliomyelitis (1909-1910) and his isolation of the germ (1913) are events of yesterday.

IODIN IN THE THYROID AND PARATHYROID GLANDS

Ever since Baumann first described the occurrence of iodin in the thyroidal tissues speculation has been rife as to the physiologic significance of this element in relation to the gland. The probability of its functional importance would, of course, be decidedly increased if it were demonstrated that iodin is an invariable constituent of the thyroid gland. There are records of negative findings, usually in the case of the thyroids of children, and particularly in the literature of a decade ago. Meantime the methods of detecting minute traces of iodin in animal tissues have been improved so that with Hunter's procedure 0.01 mg. can be approximately measured. Where such delicate methods have been applied the results have commonly given support to the theory that iodin may be expected in all thyroid tissue. On the other hand, the evidence at present available strongly suggests that the parathyroids are devoid of iodin, the traces now and then reported being attributable to contamination with thyroid tissue.[4] This fact, as far as it goes, gives additional indication in conformity with other physiologic evidence, of the differentiation of function between the thyroid and parathyroid.

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[1] Leo, Werner: Die Heine-Medinsche Krankheit (etc.), Leipsic diss., Halle, 1913.

[2] Badham, J.: London Med. Gaz., 1835-1836, xvii, 215.

[3] Charcot & Joffroy: Arch. de physiol. norm. et path., Paris, 1870, iii, 134-152, 2 pl.

[4] Cameron, A. T.: The Iodine Content of the Thyroid and of Some Brachial Cleft Organs, Jour. Biol. Chem., 1914, xvi, 465.

WELL-MEANING, BUT NOT QUITE SCIENTIFIC

A dairyman at Jamaica Plain, Mass., has the following notice concerning his milk printed on the end of his monthly bills: "From our own herd of tubercular tested cows." One of our readers, to whom such a bill was rendered, suggests that while the information was rather startling, he has reason to believe that the milk in question is of better quality than the milkman's scientific English.

Medical News

ARKANSAS

Personal.—Dr. and Mrs. Corydon M. Wassell, Little Rock, left January 28 for China. Dr. Wassell will be stationed at Wu Chang in the province of Hankow.——Dr. Harry W. Browning, Little Rock, has been appointed assistant division surgeon of the Missouri Pacific and Iron Mountain System to succeed Dr. Melvin E. McCaskill, resigned.——Dr. W. L. Sadler has succeeded Dr. Harry W. Browning as house surgeon of St. Vincent's Hospital, Little Rock.——Dr. Morgan Smith, president of the State Board of Health, has been appointed collaborating epidemiologist for Arkansas, by the Surgeon-General of the United States Public Health Service.

New Officers.—Faulkner County Medical Society at Conway, January 16: president, Dr. George W. Blakely; secretary-treasurer, Dr. Joseph S. Westerfield.——Bowie County Medical Association at Texarkana, Dec. 29, 1913: president, Dr. Benjamin C. Middleton, Point Cedar; secretary-treasurer, Dr. John M. White, Texarkana.——White County Medical Society: president, Dr. Isaac R. Majors; secretary-treasurer, Dr. John L. Jones, both of Searcy.——Crawford County Medical Society: president, Dr. M. S. Dibrell; secretary, Dr. Othello M. Bourland, both of Fort Smith.——Franklin County Medical Society: president, Dr. Thomas B. Blakely, Coal Hill; secretary-treasurer, Dr. Thomas Douglass, Ozark.——Jefferson County Medical Society at Pine Bluff: president, Dr. Thomas W. Woodul; secretary-treasurer, Dr. John T. Palmer, both of Pine Bluff.——Lonoke County Medical Society: president, Dr. John C. Chenault; secretary-treasurer, Dr. John F. England, both of England.——Jackson County Medical Society at Newport: president, Dr. Ira H. Erwin; secretary-treasurer, Dr. Henry O. Walker, both of Newport.——Pulaski County Medical Society at Little Rock: president, Dr. Alexander E. Harris, Little Rock; secretary, Dr. William T. McCurdy.——Arkansas Society for the Prevention and Study of Tuberculosis at Little Rock: director, Dr. Tillman B. Bradford, Cotton Plant.

CALIFORNIA

State Board Appointments.—Dr. Donald H. Currie, San Francisco, U. S. P. H. S., was appointed a member of the State Board of Health, December 20. At the meeting of the board, January 3, he was elected secretary to fill the vacancy by the resignation of Dr. William F. Snow, Sacramento.——Dr. Edward F. Glaser, San Francisco, has been appointed a member of the State Board of Health, vice Dr. Frank K. Ainsworth, San Francisco, resigned.

Personal.—Dr. James F. Peattie has succeeded Dr. Howard C. Massziger, and Dr. Lionel D. Prince has succeeded Dr. Russell C. Ryan of the staff of the San Francisco Emergency Hospital.——In the damage suit of J. B. Cook against Dr. John I. Boyer, Los Angeles, for alleged malpractice, the court decided in favor of Dr. Boyer, January 6.——Dr. Morton R. Gibbons, San Francisco, has been appointed medical director of the State Industrial Accident Commission.——Dr. Albert E. Myers has been appointed assistant in pediatrics in the University of California Hospital, San Francisco.

New Teaching Hospital for University.—The gift of $125,000 by an unknown friend for a children's department has now completed the fund of $615,750 which has been raised for building a new teaching hospital for the University California Medical Department. Among the other principal contributors are John M. Keith of San Francisco, who has given $150,000 in memory of his wife, and four members of the Crocker family, who have given $150,000 in memory of George Crocker, himself the founder of the Crocker cancer research fund of Columbia University. The givers of the George Crocker fund are Mrs. Harriet F. Alexander, $50,000; William H. Crocker, $50,000; Charles Templeton Crocker, $25,000, and Mrs. Malcolm Whitman, $25,000.

Hospital Notes.—The first patients were received at the new Los Angeles Jewish Consumptive Relief Association Sanatorium, Duarte, January 11. Twelve specially constructed tents have been installed. The formal opening of the new fifty-room building will take place this month.——Physicians of Lodi at a meeting Dec. 20, 1913, have decided to build a twenty-room hospital in that city.——The residence of Dr. Arthur A. O'Neil, medical superintendent of the San Francisco Isolation Hospital, was damaged by fire to the extent of $1,000, December 20.——A new hospital is to be built by the Methodists of Southern California, at Los Angeles. The first building to be erected will be 140 by 72 feet, and will be the central building. Two wings will eventually be added, and the complete hospital will represent an outlay of $250,000 and will accommodate 250 patients.

ILLINOIS

New Officers.—Douglas County Medical Society at Tuscola, January 24: president, Dr. I. Newton C. McKinney, Murdock; secretary-treasurer, Dr. Walter C. Blaine, Tuscola.——Perry County Medical Association at Duquoin, January 21: president, Dr. Elmer J. Burch; secretary-treasurer, Dr. Rolla D. Pope, both of Duquoin.

Personal.—Dr. Max C. Hawley, assistant superintendent of the Watertown State Hospital, has been appointed assistant superintendent of the Elgin State Hospital.——The fiftieth anniversary of the wedding of Dr. and Mrs. John P. Riggs, Media, was celebrated January 28, by more than one hundred friends and relatives of Dr. and Mrs. Riggs.

Prevention of Nervous and Mental Diseases.—Action has been taken in Illinois for a campaign of education for the prevention of nervous and mental diseases, according to a bulletin issued by the State Charities Commission. In January, 1914, a committee composed of Dr. H. D. Singer, director of the State Psychopathic Institute; Dr. E. A. Foley of the Jacksonville State Hospital, and A. L. Bowen, at the meeting of the State Hospitals Medical Association with the Chicago Neurological Society, presented a report on "A Practical Campaign for the Prevention of Nervous and Mental Disease." The plan of the committee did not consider sterilization, sex hygiene or eugenics as important remedies, but urged only those measures on which all authorities agree. The campaign of education to be conducted includes the use of space in newspapers for the publication of facts about the Illinois state hospitals; cooperation between the press and state charities; publication in popular magazines of articles written for the laity; compulsory psychiatry in all medical colleges, and psychopathic wards in general hospitals; a system of care for patients after they leave the hospitals, and a system of outpatient service to advise patients in detention hospitals and homes. The report also urges a revision of the commitment laws, so that the insane may not be thrown into jails, or held for trial like criminals.

Chicago

Immigration Station Opened.—The new immigration station at 845 South Wabash Avenue was opened January 28. Dr. Percy L. Prentiss, head of the local Bureau of Immigration, is in charge of the station.

Personal.—Dr. Frances Dickinson has been elected president of the Artcraft Institute Guild.——Dr. Benjamin H. Breakstone has resigned as president of the medical staff of the Maimonides Kosher Hospital.——Dr. Howard L. Beye has been appointed assistant in the department of surgery in the University of Iowa.

Tuberculosis Institute Election.—At the eighth annual meeting of the Chicago Tuberculosis Institute, January 29, the following officers were elected: president, Dr. Theodore B. Sachs; vice-presidents, Dr. Robert H. Babcock and Mr. George W. Perkins; treasurer, Mr. David R. Forgan; secretary, Mr. Sherman C. Kingsley; directors, Drs. William A. Evans, James Alexander Harvey, John Ritter and George W. Webster; Rev. P. J. O'Callaghan, Hon. Harry Olson, Hon. Julian W. Mack, Mr. G. R. Durgan, Mr. H. N. Foster, Mr. George W Perkins.

In the report the directors laid especial emphasis on the conditions in the various sanatoriums in or near Chicago, and pledged the organization to continue fighting for the adoption of all recommendations made by the special tuberculosis committee. The institution will continue to carry on the systematic medical examination and supervision of the health of employees in working-places; the tuberculosis exhibits, which were visited by 112,711 persons in 97 days; the publication of the tuberculosis bulletin and the tuberculosis study circles.

LOUISIANA

State Board Proceedings.—At a meeting of the Louisiana State Board of Medical Examiners, January 14, Dr. Edmund L. Leckert was elected secretary of the board, vice Dr. Arthur Bernard Brown, deceased. The board adopted resolutions testifying to the untiring zeal and constant devotion of Dr. Brown, and expressing regret at his untimely death.

Personal.—Dr. Creighton Wellman, dean of the School of Hygiene and Tropical Medicine of the Tulane University of Louisiana, has found it impossible to continue longer the duties of his position. He has, accordingly, tendered his resignation, which has been accepted. Dr. Wellman contributed services of great value to the university through his aid and counsel in the organization of the School of Hygiene and Tropical Medicine and in many other activities. There will be no interruption in the school and his successor will be selected at an early day.——New Orleans Medical Society, at its meeting January 12, presented Dr. Charles C. Bass with a gold medal in recognition of his successful culture of the germ of malaria.——Dr. Abraham L. Metz completed twenty-five years of service as city chemist of New Orleans, January 2.——Dr. G. Farrar Patton, for ten years secretary of the State Board of Health, has been appointed state registrar of vital statistics.——Dr. Oscar Dowling, superintendent of the State Board of Health, has been appointed collaborating epidemiologist for the state.

MARYLAND

New Surgery Building.—The members of the Woman's Auxiliary of the Methodist Hospital Association, Baltimore, have started a campaign to raise $20,000 for a new surgery building for the Maryland General Hospital.

Personal.—Dr. Howard A. Kelly, Baltimore, sailed for Europe, January 25.——Drs. William H. Welch, Baltimore, and Edgar A. P. Jones, Cambridge, have been appointed members of the State Board of Health.——Dr. Robert L. Keyser, Baltimore, who was operated on for appendicitis at the Union Protestant Infirmary, January 17, is reported to be convalescent.

New Maternity.—A maternity hospital costing $50,000 has been given by Mr. Abraham Mandels, a retired merchant, as a memorial to his brothers. It is to be an adjunct to the Hebrew Hospital and Asylum. Work on the building will begin immediately and be rushed to completion. The new building will be completely furnished and provide twenty beds, every patient having a private room; not only to paying patients but to the poor as well. Dr. Harry Adler, president of the board of directors of the hospital, at whose suggestion the new hospital was given, said in announcing the gift: "The condition of the people on the East side of Baltimore is deplorable, and this is one of the things we hope the new hospital will remedy. In many cases even clean towels could not be found in homes where a child was born. Hereafter we shall be glad to take these needy cases from the tenements and bring the mother to the hospital where she and her child will be given the very best attention. The result will be that not only will the mother benefit but there will be greater assurance for a stronger and better generation in the future." The new building will be modernly equipped and complete in every detail.

Proposed Legislation.—Several bills extending the power of the State Board of Health have been introduced in the general assembly. These provide for the division of the state into sanitary districts and the appointment of deputies in charge of each district, for the more effective control of water-supplies and for the more accurate registration of vital statistics.——Dr. Eugene Jones, Kensington, state senator from Montgomery County, has introduced a bill regarding the sale of bichlorid of mercury. The bill specifies that the words "bichlorid of mercury" shall be blown into the bottle; that the tablets shall have a definite shape, and that the label on each bottle shall bear the word "poison" in prominent letters.——The Board of State Aid and Charities in Maryland has introduced a bill which will place under its control all the hospitals and charitable institutions receiving state aid. Heretofore the duties of this board have been supervisory, but under the new plan the distribution of all state funds to hospital and charitable organizations will pass through the hands of the board.——The State Lunacy Commission has introduced a bill calling for a bond issue of $600,000 to be known as the "Third Insane Hospital Bond Issue." From the proceeds of this issue two modern psychopathic buildings will be completed, one at the Spring Grove State Hospital and the other at the Springfield State Hospital; and, in addition to these buildings, the bond issue will provide for the completion of the State Hospital on the Eastern Shore of Maryland for the Insane; the removal of all patients from the Insane Department at Bay View, the Baltimore Detention Hospital, and the permanent closure of this department.

MASSACHUSETTS

New Leprosarium.—The State Board of Charities has formulated a plan for a new leprosarium at Penikese Island, to cost about $40,000.

Personal.—Dr. and Mrs. Arthur M. Greenwood, Marblehead, sailed for Europe, January 20.——Drs. Frederick L. Lyons and Aubrey J. Collins have been appointed school physicians of Boston.——Dr. James S. Tompkins, resident physician at the Long Island Alms House and Hospital, Boston, has resigned.——Dr. Frederick A. Bartlett, Quincy, has been appointed city physician of Quincy.——Dr. J. Frank Curtin, North Abington, has been appointed medical examiner, vice Dr. Frank G. Wheatley, North Abington, term expired.——Dr. Melvin G. Overlock, Worcester, has been appointed state health inspector for the southern central district of the state.

MICHIGAN

Sanatorium Notes.—Three tent-houses have been purchased for the Detroit Tuberculosis Sanatorium, to be used until the new twelve-room addition to the institution is completed. The new building is to cost $25,000.——The state has appropriated $20,000 for the erection of a tuberculosis sanatorium at Sanford, Midland County. The board of trustees of the State Sanatorium, Howell, has reported to the governor that it cannot purchase land and erect buildings for the amount appropriated by the city, and has asked instructions as to its action in the matter.

Personal.—At the annual meeting of the Michigan State Medical Society in Detroit, January 19, Dr. Frederick C. Warnshuis, Grand Rapids, was reelected secretary-editor, and Dr. D. Emmet Welsh, Grand Rapids, treasurer.——Dr. Charles G. Jennings, Detroit, was given a dinner, January 6, by the medical staff of Harper Hospital.——Dr. Karl B. Brucker, Lansing, has been appointed a member of the State Board of Pardons, succeeding Dr. Frank T. Roach, Newport, resigned.——Dr. and Mrs. DeWitt C. Adams, Detroit, have sailed for Europe.

MINNESOTA

Personal.—Lieut. Reuben M. Pederson, Minneapolis, has been commissioned Major M. C., Minn., and assigned to the First Infantry.——Dr. Olaf J. Hagen, Moorhead, chairman of the State Efficiency Commission and the subcommittee on health and safety, has resigned as chairman, but will retain his membership on the committee.——Dr. Charles H. Zander, St. Paul, has succeeded the late Dr. Eugene W. McCord as a member of the medical staff of the Omaha Employees Benefit Association.

State Board Changes.—At the annual meeting of the State Board of Health held in Minneapolis, January 13, Dr. William A. Jones, Minneapolis, was reelected president and Dr. Burton J. Merrill, Stillwater, was reelected vice-president. The board approved the County Sanatorium Commission, consisting of Drs. John W. Bell, Hennepin County; Myron W. Smith, Goodhue County; Thomas Lowe, Pipestone County, and Alfred L. Vadheim, Lincoln County.——A branch laboratory is to be established by the board at Eveleth, to take care of the increasing work on the Iron Range.——Dr. Egil Boeckmann, St. Paul, has been appointed a member of the board, succeeding Dr. Robert O. Earl, St. Paul.

MISSISSIPPI

Gulfport Made Relief Station.—The United States Public Health Service has directed that Gulfport be made a relief station, and hereafter all American sailors will be given medical attention free of charge at King's Daughters Hospital.

Release from Quarantine.—The American schooner, *Carrie A. Lane*, which has been held at quarantine at Gulfport, because she had come from Brighton, Trinidad, where yellow fever is epidemic, has been released and allowed to enter Gulfport harbor.

Personal.—Dr. William W. Smithson has been appointed superintendent and Dr. R. E. Howard a trustee of the Mississippi Insane Hospital, Jackson.——Dr. Roland H. Cranford, Moselle, is reported to be seriously ill with septicemia in the Hattiesburg Hospital.

NEW YORK

Personal.—Dr. Linsley R. Williams has been appointed first deputy health officer of the state by Dr. Herman M. Biggs who took his oath of office January 21.

Farm for Convalescents.—The West Side Y. M. C. A., which has a farm of several hundred acres 4 miles from Kingston, N. Y., which has been used as a summer camp for boys, is making arrangements to open it for men discharged from city hospitals but who are still too weak to return to work.

Harvey Society Lecture.—The next lecture in the present course of Harvey Society Lectures will be given at the New York Academy of Medicine, on the evening of February 14, at 8:30 o'clock. Prof. J. J. R. Macleod of the Western Reserve University will speak on "Recent Work on the Physiological Pathology of Glycosuria."

Warship Under Quarantine.—The new battleship *Arkansas* is quarantined in the Brooklyn Navy Yard. The 1,000 officers and men are held on the vessel because of a threatened epidemic of diphtheria. Two men had the disease and fourteen others who are suffering from severe sore throats and fever were awaiting developments.

New Seaside Hospital Building.—The construction of the new Seaside Hospital at Rockaway has been begun. The Association for Improving the Condition of the Poor has $257,000 toward the project, which was raised seven years ago after a country-wide campaign. The fund has been held in trust since that time waiting for the city to accept the offer of the association to build and equip the institution provided the city would provide a site and assume ownership and conduct and maintain the hospital. The association hopes to have the institution ready for occupancy by May, 1915. The hospital will be situated on the ocean front, and when the entire plant is completed will comprise a four-story structure fronting on the ocean and eight pavilions, each 138 by 142 feet. The completed hospital will cost about $2,000,000 and will have a capacity of 1,000 beds. The association's gift to the city will include two of these pavilions and part of the main hospital structure, providing for 150 patients. The remainder of the accommodations will be at the disposal of those outside the city who have helped to establish the institution.

Mount Sinai Hospital Annual Meeting.—At the sixty-first annual meeting of the directors of this institution recently held it was announced that Dr. Arpad G. Gerster who had been visiting surgeon for thirty-four years, and Dr. Julius Rudisch who had been visiting physician for thirty-nine years, have retired from active service to become consulting surgeon and physician respectively. Dr. Gerster was presented with a silver tea service and Dr. Rudisch with a silver Greek vase. It was also announced that a plot of ground 175 by 100 feet on Fifth Avenue and Ninety-Ninth Street, just across from the hospital has been donated as a site for the additional hospital building for which a building fund of $1,000,000 has been collected. Half a million dollars is still needed to complete the required amount. The president's report shows that the receipts of the hospital for the last year were $421,384 and the expenditures were $469,892, leaving a deficit of $48,507 which it will be necessary to borrow from the permanent fund. The number of patients admitted during the year was 7,537, or 234 less than during the previous year. There were 5,326 free patients. In the dispensary there were 231,092 consultations, 5,205 less than during the previous year.

New Drug Bill.—The senate committee on Public Health has under consideration a bill to prevent the sale of all habit-forming drugs, except on prescription properly filled out by a practicing physician and by a licensed pharmacist, who shall keep a record of all such sales, the date of sale, the name and address of the physician giving the prescription, and the name and address of the person prescribed for. The bill provides that no prescription shall be filled more than once. In addition it makes it unlawful for any person to sell at retail or to furnish to any person other than a duly licensed physician, dentist or veterinarian, a hypodermic syringe without first receiving from the purchaser an official prescription blank properly filled out. The measure was drawn by Dr. Charles B. Towns of New York City. It makes provision for those who have become so addicted to the use of drugs that to deprive them offhand would be to invite an outbreak of violence, and it also provides that separate quarters shall be maintained in city and county hospitals for the treatment of those addicted to drug habits. It further authorizes local health boards to issue without charge official prescriptions to such persons as have become entitled to the regular administration of these drugs through illness.

New York City

The Crocker Research Laboratories.—It is announced that although the Crocker Research Laboratories which were founded for research work in cancer have been open but a few weeks 5,000 animals have already been inoculated with cancer. Every time a new method of cure worthy of consideration is suggested 100 animals are inoculated with the disease and placed under observation. At present experiments as to the efficacy of radium are being tried, but it is stated that no definite reports will be given out before the end of three years. One of the most important branches of work carried on at the laboratory is that of diagnosis of cases. The records of investigations are preserved and are at the service of physicians who care to use them. Courses of instruction open to physicians will be a part of the work of the laboratory staff.

NORTH CAROLINA

Tuberculous Children Excluded.—The Roann County Board of Health has adopted an order excluding children suffering with tuberculosis from the public schools of the county.

Personal.—Dr. Samuel A. Henley, Ashboro, suffered a loss of $3,000 by fire at his residence, January 21.——Dr. Richard W. Wooten, Kinston, is reported to be seriously ill at his home.——Dr. Samuel P. Burt, Louisburg, who was seriously injured in a runaway accident recently, is reported to be convalescing.

Hospital Report.—The annual report of the James Walker Memorial Hospital, Wilmington, shows that during the past year 1,384 patients were treated, of whom 816 were white and 568 colored. Of the charity patients 185 were white and 470 colored. The expenses of the institution were $40,209.41 and the income was $38,058.37.

NORTH DAKOTA

New Officers.—Sheyenne Valley District Medical Association, at Valley City, January 22: president, Dr. William B. Wanner, Wimbledon; secretary, Dr. Samuel A. Zimmerman, Valley City.

Small-Pox at State Hospital.—For the fifth time since the establishment of the State Hospital at Jamestown, small-pox has appeared in that institution. Twelve cases have appeared, but prompt action of the officers, has resulted in the checking of any further spread of the disease.

OHIO

State Board Withdraws Recognition.—Official information says that at its recent meeting the State Medical Board of Ohio withdrew recognition from the Toledo University Medical Department.

Personal.—Dr. Otto P. Geier, superintendent of Charity and Corrections of Cincinnati, has resigned and will take a long course of study abroad.——Dr. Charles S. Rockhill, Superintendent of the Cincinnati Municipal Tuberculosis Sanatorium, has resigned.——Dr. Emanuel Schwab, Cincinnati, is said to be seriously ill with heart disease, at his home in Walnut Hills.

City Hospital Superintendent.—The results of the Civil Service examination for the City Hospital superintendency were announced Monday, February 2, as follows: Dr. Charles F. Sanborn, Chicago, 80.65 per cent.; Dr. William H. Pritchard, Gallipolis, Ohio, 72.35 per cent.; Dr. Arthur C. Bachmeyer, Acting Superintendent, Cincinnati Hospital, 71 per cent. From these figures, it is reasonably certain that Dr. Sanborn will be the new superintendent of the Cincinnati Hospital. There is a current rumor to the effect that Dr. Bachmeyer will be appointed to fill Dr. Charles S. Rockhill's place as superintendent of the Tuberculosis Hospital.

Saturday Evening Lectures.—The following program of Saturday evening lectures has been arranged to be held at the Experimental Research Laboratory, Broadway, Cincinnati:

January 31, Dr. James M. Ball, St. Louis, "Great Artists and Famous Anatomists." February 7, Dr. Charles S. Rockhill, Cincinnati, "Experiments on Animals Pertaining to Tuberculosis and Hydrophobia." February 14, Dr. C. A. Zwick, "Chemical Experiments on Animals." February 21, Dr. Archibald H. Barkley, Lexington, Ky., "Experiments on Fractures in Animals." February 28, Dr. John W. Vaughan, St. Louis, Mo., "The Production of Anti-Cancer Globulins in Animals." March 7, Dr. Simon P. Kramer, Cincinnati, "Experiments and Their Influence on Brain Surgery." March 14, Dr. John H. Landis, Cincinnati, "Experiments on Animals and Their Influence on Mortality." March 21, Dr. James W. Miller, Cincinnati, "Experiments on Animals in the Production of Diphtheria Antitoxin." March 28, Dr. Luther L. Hill, Montgomery, Ala., "Experiments on Animals in the Development of Heart and Lung Surgery." April 4, Dr. Otto Juettner, Cincinnati, "Experimental Electro-Therapeutics." April 11, Dr. Howard Ayres, "Vivisection and Its Purposes." April 18, Dr. Victor D. Lespinasse, Chicago, "Experiments on Blood-Vessels of Animals and Transfusion of Blood." April 25, Dr. Burrill M. Ricketts, Cincinnati, "Experiments on Animals' Intestines."

PENNSYLVANIA

Personal.—Physicians of Honesdale met at the home of Dr. Robert W. Brady, January 23, and celebrated the fiftieth anniversary of the graduation of Dr. Brady from Albany Medical College.

State Hospital Overcrowded.—On January 29, inspection was made of the State Hospital for the Insane at Norristown, by the officers of the Public Charity Association of Pennsylvania, and it was found that there were too many inmates for the doctors and nurses to have complete oversight of their charges. There are 2,952 patients of whom 1,443 are men and 1,509 women. To accommodate this large number it is necessary to crowd the dormitories and wards.

Facts About Cancer.—A joint meeting of the Twentieth Century Club, Pittsburgh Academy of Medicine, and American Society for the Control of Cancer, was held in Pittsburgh, February 3, at which Dr. James W. Macfarlane presided, and addresses were delivered by Mr. Frederick L. Hoffman, New York; Dr. Edward Reynolds, Boston; Mr. E. A. Woods, Rev. J. Leonard Levy, D.D., Rt. Rev. Bishop Regis Canevin, Mr. John A. Brashear, LL.D., and Rev. Maitland Alexander, D.D.

New Officers.—Medical Society of Northampton County at Easton, January 16: president, Dr. Noah W. Reichard, Bangor; recording secretary, Dr. W. Gilbert Tilman, Easton; corresponding secretary, Dr. Frederick E. Ward, Easton.——Lebanon County Medical Society at Lebanon: president, Dr. John Walter; secretary, Dr. Charles M. Strickler, both of Lebanon.——Perry County Medical Society at Newport, January 14: president, Dr. William T. Morrow, Loysville; secretary, Dr. A. Russel Johnston, New Bloomfield.——Lehigh County Medical Society, eighteenth annual meeting, at Allentown, January 13: president, Dr. William J. Hertz, Palmerton; secretary, Dr. Jacob T. Butz, Allentown.——Cumberland County Medical Society at Carlisle, January 13: president, Dr. William S. Ruch; secretary, Dr. Edward R. Plank, both of Carlisle.——McKean County Medical Association at Kane, January 14: president, Dr. Samuel H. Haines; secretary-treasurer, Dr. James Johnston, both of Bradford.——Indiana County Medical Society at Indiana, January 13: president, Dr. William B. Ansley, Saltsburg; secretary, Dr. William A. Simpson, Indiana.——Bradford County Medical Society at Sayre, January 13: president, Dr. Donald Guthrie, Sayre; secretary and reporter, Dr. Cyrus L. Stevens, Athens.

Philadelphia

New Officers.—Philadelphia Medico-Legal Society, January 27: president, Dr. William T. Hamilton; secretary, Dr. Charles W. Schaubel.

Portrait Presented.—A portrait of the late Thomas G. Morton was presented by Mr. Arthur V. Morton to the College of Physicians, February 4. The presentation address was made by Dr. Morris J. Lewis.

Tribute to Dr. Spitzka.—At the funeral services of the late Dr. Edward Charles Spitzka, held at his late residence, January 15, tributes were paid to his memory by Rev. Charles F. Faguani and Drs. William C. Pritchard and H. E. Brill.

Personal.—Dr. McCluney Radcliffe has been elected ophthalmic surgeon to the Presbyterian Hospital to succeed Dr. George Strawbridge, resigned.——Dr. C. Doane has been appointed permanent resident surgeon at the State Hospital, Shamokin.

Additions to Hospital.—Architects have been selected to draw plans for the additions to St. Mary's Hospital, to be erected at Frankford Avenue and Palmer Street. The additions consist of a five-story and basement wing to be built on Palmer Street, about 170 feet, with another wing along Sepviva Street, 268 feet. The buildings will be of brick, stone and terra cotta, of Renaissance style of architecture, and the construction will be fire-proof.

Outside City Doctors Plan Fight.—Twenty-one of the twenty-five "Visiting Poor" physicians of the Bureau of Charities, who were dismissed last week by Director Wilson, held a meeting January 25, and decided to fight their removal and base their fight for retention on three grounds. The first was that counsels had appropriated $27,000 for the work done by the fifty visiting poor physicians, and that the act of 1892, authorizing such work had not been amended or repealed; second, the right of Assistant Director Wilson to make the dismissals in the absence of Director Neff. The final contention was that the position of Assistant Director Wilson is in jeopardy because he is not a graduate of a medical college.

Hospitals to Have Uniform Accounting System.—A joint meeting of the Efficiency Board of the County Medical Board and the State Board of Charities, was held in the rooms of the state board in the Bulletin Building, January 30, and definite plans for increasing efficiency and reducing the cost of maintenance in city hospitals were discussed. It was decided that a uniform system of accounting, suitable for the fifty-five hospitals, would be the first improvement. Harry S. McDevitt and W. B. Hadley were chosen to investigate every hospital in this city and report at the February meeting. The members of the hospital Efficiency Board are Drs. Edward Martin, Charles B. Penrose, George S. deSchweinitz, Wilmer Krusen and John D. McClain, and Richard Waterman, secretary.

SOUTH CAROLINA

Pellagra Hospital.—A state hospital for the study and treatment of pellagra is to be established under a bill which has been favorably reported by the senate and finance committee. The bill provides for an initial appropriation of $25,000.

Eugenics Bill Killed in Senate.—The state senate, by vote of 22 to 17, on January 14, failed to approve the bill endorsed by the South Carolina Medical Association, which requires the production of medical certificates of freedom from diseases on the part of male applicants before the issue of marriage licenses.

Personal.—Dr. H. R. Black, president of the Spartanburg Hospital, is under treatment in Philadelphia for injuries to his arm received by being thrown from his buggy, January 15.——Dr. Cyril T. Wyche, Prosperity, has been elected speaker pro tem, of the South Carolina House of Representatives.——Dr. Thomas T. Earle has been reelected president and Dr. T. R. W. Wilson secretary of the medical staff of the Greenville City Hospital.

TEXAS

New Officers.—Central Texas District Medical Society at Waco, January 12-13: president, Dr. Selwyn P. Rice, Marlin; secretary-treasurer, Dr. Herschell F. Connally, Waco. The semi-annual meeting is to be held in Hillsboro the second Tuesday and Wednesday in July.——Galveston County Medical Society at Galveston, January 9: president, Dr. Ashley W. Fly; secretary-treasurer, Dr. Lawrence R. Harris, both of Galveston.——Bell County Medical Society at Temple, January 9: president, Dr. Edward J. Burns; secretary-treasurer, Dr. Lewis R. Talley, both of Temple.——San Antonio Academy of Medicine, organized January 5: president, Dr. Charles A. R. Campbell, San Antonio; secretary-treasurer, Dr. Robert A. Roberts.——Tom Green County Medical Society at San Angelo, December 30: president, Dr. Jesse S. Hixon; secretary-treasurer, Dr. Lester C. G. Buchanan, both of San Angelo.——Eastland County Medical Society at Cisco, December 31: president, Dr. William M. Powell; secretary-treasurer, Dr. William P. Lee, both of Cisco.——Johnson County Medical Society at Cleburne, December 29: president, Dr. G. Daniel Strickland, Cleburne; secretary, Dr. Charles L. Edgar, Fort Worth.——Tarrant County Medical Association at Fort Worth, December 22: president, Dr. Joseph A. Gracey; secretary, Dr. Frank G. Sanders (reelected), both of Fort Worth.——Fort Worth Physicians' Club: chairman, Dr. Crittenden Joyes; secretary, Dr. Pierre F. Higgins (reelected).

GENERAL

Students of Epilepsy to Meet.—The twelfth annual meeting of the National Association for the Study of Epilepsy will be held in Baltimore, May 25.

Medical Jurisprudence Organization Incorporated.—The American Association of Medical Jurisprudence has been incorporated under the laws of the State of New York. The membership is to consist of physicians and lawyers. The first annual meeting is to be held in New York City, May 2, under the presidency of Dr. Reynold Webb Wilcox.

Fraternal Election.—At the annual convention of the Phi Delta Epsilon held in New York, recently, the following grand officers were elected: consul, Dr. Murray B. Gordon, Brooklyn; vice-consuls, Drs. Leo S. Schwartz, Brooklyn; Bernard B. H. Aarons, Philadelphia; George Pinēss, Passaic, N. J.; chancellor, Dr. Aaron Brown, New York City; scribe, Dr. Ellis Campus, New York City, and historian, Dr. Irving Gray, Brooklyn.

Porto Rico Physicians Meet.—The annual meeting of the Medical Association of Porto Rico was held in Ponce, Dec. 13-14, 1913, and the following officers were elected: president, Major Bailey K. Ashford, M.C., U.S.A.; vice-president, Dr. Pedro Malaret; secretary, Dr. Jorge del Toro; treasurer, Dr. Jacinto Aviles, and councilor, Dr. P. Gutierres, Igaravidez. The next meeting of the association will be held at Guayama.

Congress on Social Insurance.—The International Congress on Social Insurance will meet in Washington in September, 1915, on the invitation of the United States government. This congress meets biennially, and this will be the first meeting in the United States. The headquarters are in Paris, where a permanent committee carries on the work of the organization between sessions. M. Leon Bourgeois, former Prime Minister of France, is president, and M. Edouard Füster, general secretary. Secretary of State Bryan has announced the appointment of a general committee to make arrangements for the Congress, which includes the Secretary of the Treasury and the Secretary of Commerce and Labor, as well as a long list of prominent persons in the United States interested in sociologic work.

Competitive Examination for Food and Meat Inspector.—Savannah, Ga., has adopted the sensible plan of holding a competitive examination for the position of food and meat inspector for that city, instead of appointing untrained persons because of their political pull. By an ordinance providing for a chief inspector and assistants the mayor is given the power of appointment, but the appointees are to be persons who have passed successfully a competitive examination to be made and held in such manner as is directed by the health officer of the city. In order that persons trained in the duties of food and meat inspectors may be secured for the positions it has been arranged that examinations are to be held in Savannah and Augusta, Ga., Boston, Washington and Chicago, after advertisement in veterinary journals and the posting of notices in the veterinary schools of the country.

Bequests and Donations.—The following bequests and donations have recently been announced:

New England Hospital for Women and Children, Children's Hospital, Boston, and Boston Floating Hospital, each one-seventh of property inherited from his father; Boston Lying-in Hospital, Boston Floating Hospital and Children's Hospital, each one-fourth of any property inherited from his mother, by the will of John Ware Willard, Brookline, Mass.

Massachusetts Homeopathic Hospital, Boston, $50,000, Boston Home for Incurables, $25,000, by the will of Benjamin Leeds, Roxbury, Massachusetts.

Milford (Mass.) Hospital $10,000, to be known as the Bancroft-Day Fund, the income to be used for general hospital purposes, by the will of Mrs. *Lura Bancroft-Day*.

University of Pennsylvania Hospital, $12,000, for the purchase of radium to be used in the treatment of cancer, donation by George H. McFadden, Philadelphia, through Dr. Alfred Stengel.

Philadelphia Home for Incurables, $7,500, for maintenance of a free bed in the cancer annex.

Allentown Hospital, donation of $30.000 for the construction of an operating-room, by Dr. Charles D. Schaeffer.

Tenth Annual Conference on Public Health Legislation and Medical Education.—The tenth annual conference of the Councils on Medical Education and Medical Legislation of the American Medical Association will be held at the Congress Hotel, Chicago, Monday and Tuesday, Feb. 23 and 24, 1914, the sessions to begin at 9 a. m. On Monday will be held the Conference of the Council on Health and Public Instruction, the principal speakers on the program being Dr. William F. Snow, secretary, American Social Hygiene Association, New York City, on "Recent Efforts for Sex Education"; Dr. C. A. Harper, secretary, State Board of Health, Madison, Wis., on "Wisconsin's Experiment in Marriage Legislation"; Dr. J. W. Pettit, Ottawa, Ill., on "Public Education Through the Daily Press"; Dr. W. S. Rankin, secretary, State Board of Health, Raleigh, N. C., on "Public Education Through State and County Boards," and Dr. Frederick R. Green, secretary, Council on Health and Public Instruction, on "Sixty-Seven Years of Legislation." On Tuesday will be held the Conference o Medical Education. At this conference, besides the usu addresses by the chairman and secretary, there will be th following addresses: "Administering the Year in Physic Chemistry, Biology and a Modern Language," by Dr. Richard I Whitehead, Dean of the Medical Department of the Universit of Virginia, Charlottesville, Va. "The Danger to the Maintenance of High Standards from Excessive Formalism," b President A. Lawrence Lowell, Harvard University, Cambridg Mass. "Hospitals and Their Relations to Medical Colleges an the Hospital Intern Year," by Dr. Christian R. Holmes, Dea Ohio-Miami Medical College, Cincinnati, Ohio: "Registratio Under the Canada Medical Practice Act," by Dr. W. Powel Registrar of the Medical Council of Canada, Ottawa, Ont. Ther will also be papers dealing with the subject of medical licensur in the United States by well-known speakers. Among thos who have agreed to join in the discussions are: Dr. Victor C Vaughan, president-elect of the American Medical Association, Ann Arbor, Mich.; Dr. John L. Heffron, dean of Syracuse University College of Medicine, Syracuse, N. Y.; D Walter L. Bierring, president of the Iowa State Board o Medical Examiners, and others. On the day following the conference of the Council on Medical Education will be held th annual meetings of the Federation of State Medical Boards o the United States and of the Association of American Medica Colleges. There is every promise that this series of conferences will be both interesting and helpful.

The Small-Pox Situation.—Small-pox has been more prevalent throughout the United States during the present fal and winter than for a number of years. Without making an attempt to gather accurate statistics concerning the diseas it is interesting to note that it has been reported durin January from about 225 cities and towns, the cases rangin in number from a few cases to a hundred or more in one place In many places the schools have been closed, and in other not only the schools, but churches and places of public amusement. Business has also been interefered with. Vaccinatio has been urged everywhere and has been made compulsory i many places under state or local laws and ordinances, an quarantine with its annoyance, loss of time and enormou expense in proportion to the good it accomplishes, has bee enforced. Opposition, organized and otherwise, has arisen i a number of places against the efforts of the authorities t quickly stamp out the disease. The anti-vaccinationists, blind to all the evidence as to the efficacy of vaccination, may always be counted on to make as loud a noise as possible, where prompt and vigorous action is especially necessary to control the disease.

The small city of Niagara Falls, which is spoken of as an "antivaccination center," has had about two hundred cases, with as many as 79 houses under quarantine at one time. The opposition to the efforts of the local health officer to secure thorough vaccination and carry out other measures for the eradication of the disease led to a protest to the state authorities by the city health officer of the neighboring city of Buffalo. An expert was sent to Niagara Falls by the state board to cooperate with the local authorities.

Toledo, Ohio, also had a large number of cases during December and January. An order by the local health board that the schools be kept closed early in January and that all teachers and children must be vaccinated or show a certificate as to a successful vaccination before entering the reopened schools on January 5, was ignored by the schoolboard and the schools were reopened, but later closed again. The spread of the disease, however, led to another order by the health board January 15 which made vaccination compulsory not only in the schools but in business and industrial establishments, under penalty of quarantine and a demand on the city councils for an appropriation of $25,000 to fight the disease. The surrounding cities of Ohio and Michigan addressed inquiries to the authorities of Toledo as to what was being done to fight the disease effectively, and intimated that quarantine might be declared against the city. Notwithstanding all this the antivaccinationists under the celebrated name of the League for Medical Freedom organized to oppose the efforts to get rid of the disease, and even went so far as to file charges and demand the removal of the city health officer for attempting under the laws of Ohio and according to established scientific methods to protect the people of Toledo against this loathsome disease. The correct methods prevailed, of course, and the disease will soon be under control.

In San Diego similar opposition and conflict of authority between the health department and the school board created a regrettable situation for a time.

In Iowa the ignorance or carelessness of some physicians in diagnosing cases as chicken-pox which afterward turned out to be small-pox, with consequent spread of the more serious disease, led to an order by the state board that all cases of "chicken-pox" as well as small-pox be quarantined. This aroused a good deal of opposition, but is believed to have been justified by the state board. In many places an attitude is assumed by the people and the authorities, and sometimes, though not frequently, by the health officer, which results in imperfect protection or the continuation and increase of cases. It is illustrated by the recent action in Keokuk when there were reported to be twenty cases of small-pox in the city. The city health board reported the situation as serious and demanded vaccination, but after a conference with the school and city authorities it was reported as "the consensus of opinion that compulsory vaccination was not imperative at this time. Should conditions change and grow worse it will be ordered" The mayor and the commissioner of public safety, it is said, did not consider the situation serious, though the health officer and the president of the school board, also a physician, believed it to be serious

Small pox when present is always serious, and the plan of waiting until an epidemic difficult to handle has arrived before adopting preventive measures is an absurdity that is perpetrated in numerous places Vaccinate first and then the disease will not appear Immunity gained by having the disease is a highly disagreeable and expensive, not to say dangerous method, but the wide spread presence of the disease this winter proves that this is the method by which many communities are acquiring it

FOREIGN

Profit from State Monopoly of Quinin in Italy.—It is stated that the net profits for the fiscal year 1911 1912 were 919,723 lire, an increase of 76,000 lire over the year before This net profit of nearly $200,000 has been added to the fund for combating the causes of malaria

Carnegie Hero Medal Awarded to Physician in Italy—One of the Carnegie hero medals and $200 were presented recently to Dr P Foianini of Grosio on account of his having sucked a diphtheric membrane from the throat of a woman on whom he was doing a tracheotomy and who was *on the point of* suffocating The woman was saved, but the physician developed the disease himself in a severe form

Annual Meeting of the German Surgical Association—Professor Muller of Rostock is to preside at the Forty Third Annual Meeting of the German Gesellschaft fur Chirurgie, which is to be held at Berlin, April 15 to 18 The subjects appointed for discussion are the "Ultimate Outcome of Transplantation of Thyroid Tissue," to be introduced by Kocher of Bern, "Postoperative Abdominal Hernia," by Sprengel of Brunswick, and "Bladder Tumors," by Hildebrand and Joseph of Berlin

Prize for Work on Microbiology.—It is announced from Copenhagen that the E C Hansen prize is to be awarded this year for the first time The date is May 8, and the prize consists of a gold medal and a sum of at least 2,000 crowns It is to be given to the author of some prominent work on microbiology which has been published in Denmark or elsewhere in the course of recent years, dealing with the morphology and mode of action of microbes pathogenic for man and beast Besides the four Danish members of the committee of award, it includes Profs Theobald Smith of Boston, Gaffky of Berlin and Calmette of Lille For further details address the chairman of the committee, Prof S P. L Sørensen, Carlsberg Laboratoriet, Copenhagen, Denmark

CANADA

Good Work in Diphtheria—In the past two years the Toronto Isolation Hospital has invested in diphtheria antitoxin $9,000, or more than in similar periods in former years The result has been the saving of fifty lives

Reorganization of Medical Department.—The western medical system of the Canadian Pacific Railway is being completely reorganized The operation of the medical services will be in the hands of an executive committee who will appoint all the medical men and draw up regulations governing the service

Communicable Diseases—All the public schools in Ingersoll, Ont, have been closed owing to an epidemic of diphtheria ——A rigid quarantine against small pox in Niagara Falls, N Y, has been established in Niagara Falls, Ont The director general of Public Health, Ottawa, has appointed Drs Horace R Elliott and Frank W E Wilson quarantine officers to regulate the passenger traffic over the border All persons entering Canada who cannot show certificates or proofs of vaccination within seven years will be rejected

Hospital News—The Toronto General Hospital funds have passed the $3,500,000 mark, and the entire amount has been raised with the exception of $85,000 The total number of inmates is 1,080——Calgary, Alta, is planning to build a $30 000 tuberculosis hospital——The Board of Trade, Perdue, Sask, recommends that a hospital be established in that town——The Tranquille (B C) Sanatorium for Tuberculosis has to face a deficit of $15,000 for its operations for 1913 With the addition of the proposed new buildings to cost $100 000, on the same basis of administration, the deficit would amount to double that amount in 1914 Detailed statements showing the necessity for additional governmental assistance have been placed before the British Columbia Government, who are being asked to make an increased grant for maintenance and to provide the funds for the erection of the new building

LONDON LETTER

(From Our Regular Correspondent)

London, Jan 24, 1914

A New View on Vaccination

Dr. C. K Millard, health officer of Leicester, delivered the first of the three "Chadwick Public Lectures" on "The Vaccination Question in the Light of Modern Experience" The lecture was remarkable in that an entirely new position intermediate between that of the antivaccinationists and the orthodox view was adopted by an authority on public health In this country professional opinion has always been almost unanimously in favor of vaccination, but there has been a sprinkling of eminent physicians such as Dr Creighton and Sir William Collins, M D, F R C S, K C V.O, opposed to it The latter, who presided at this lecture, is chairman of the Chadwick trustees, and the fact that he was a very active member of the royal commission on vaccination and largely responsible for the minority report of the commission, while the lecturer is the chief public health official for the town of Leicester—so long regarded as the Mecca of the antivaccinationists—gave the lecture a special interest

Dr Millard explained his personal position in regard to vaccination When he first went to Leicester his views on the subject were strictly orthodox, but in consequence of his experience with small pox in Leicester and of the close study of the question he has been obliged to modify those views considerably He is a thorough believer in the power of vaccination to protect the individual temporarily On the other hand, he has become skeptical as to the value of vaccination to the community at the present day He attributed the bitterness felt by the opponents of vaccination to the compulsory clauses of the vaccination acts and the tyranny with which these had often been enforced There was also the repulsion which many persons undoubtedly felt to the introduction of a disease into a healthy child for the sake of preventing another disease, the risk of contracting which he considered problematic It would ultimately be discovered that the whole truth about vaccination would not be found on either one side or the other, but that both sides were partly right and partly wrong The question of vaccination was not nearly so simple as many people appeared to think.

His own views are as follows

1 I believe absolutely in vaccination, though with certain important reservations, and I differ *in toto* from the anti vaccinationist when he asserts that vaccination is a "myth" and a "delusion" I agree entirely with the provaccinationist that recent vaccination confers on the individual protection against small pox which for practical purposes is complete, though unfortunately only temporary

2 Vaccination, repeated as often as necessary is invaluable for protecting those who for any reason are specially exposed to the infection of small pox, as doctors and nurses

3 It is also of very great value for protecting persons after actual exposure to infection, as small pox contacts

4 Vaccination has a remarkable power of modifying and mitigating small pox for many years after its power to protect against attack has worn out Moreover, the protection conferred by vaccination can be renewed by revaccination

5 On the other hand I agree with the antivaccinationist in doubting the value to the community, at the present day, of infantile vaccination An exaggerated view has been taken as to the effect of such vaccination in preventing the spread of small pox, which is the real problem before us

6 I agree with the antivaccinationist that sanitation, notification isolation, surveillance of contacts, and other modern measures which are becoming generally adopted have played a more important part in the abolition of small pox from this country during the past thirty or forty years than infantile vaccination

7 I think the antivaccinationist is right when he contends that the drawbacks to infantile vaccination, and the injuries to health caused by it are not sufficiently recognized by the medical profession, who, in their sincere anxiety to defend vaccination, have been inclined to minimize these drawbacks

8 On the other har [illegible] in his hostility to vaccination has grossl [illegible] backs while endeavoring to prejudice the [illegible] making wild assertions about the nature and origin of vaccine lymph, etc

9 There is distinct evidence that small pox is leaving this country in spite of the increasing neglect of vaccination, and it seems probable that such neglect of vaccination will continue to increase until the great majority of the population has become unvaccinated I am inclined to believe that when this happens the problem of small pox prevention will very possibly be simplified and made more easy rather than more difficult

10 The great difficulty in controlling the spread of small pox at the present day is the occurrence of very mild unrecognized cases which spread infection broadcast before precautions can be taken They occur almost entirely among vaccinated persons and *because they were so vaccinated* In other words, infantile vaccination, by its very success in mitigating small pox after its power to protect from attack has worn out, may have a distinct tendency to encourage the spread of the disease It is possible that this tendency more than neutralizes any benefit which the community derives from the fact that vaccination largely protects the child population from small pox

Dr Millard considered that the *antivaccinationists made a* great mistake in contesting the protective influence of vaccination on the individual, as this had been abundantly proved beyond all doubt. The real question now was: What is the protective influence of vaccination on the community? He showed a number of diagrams illustrating the fall in small-pox mortality and proving that this was specially marked since the "era of sanitation," during which such measures as notification and isolation had come into operation. Diagrams showing that although the proportion of infants vaccinated had been declining the small-pox mortality had been undergoing the same change were also produced. He considered that the universal vaccination of the community was therefore much less important than had been supposed.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 17, 1914.

The Struggle with the Krankenkassen

No important progress has been made in the negotiations for an agreement with the Krankenkassen during the past week. To be sure, the Stettin Krankenkassen, after long negotiations, expressed themselves as ready to carry out the conditions agreed on, but in Breslau the insurance societies are objecting to compliance with the chief demand, that is, the dismissal of the emergency men already appointed, the so-called "strike-breakers." Compliance with this demand, however, is regarded by the Leipsic League as a prerequisite to the final settlement of the difficulties. As a result, the confidential advisers of the Leipsic League met again in Leipsic on the 11th and passed the following resolutions:

> After the German medical profession promptly and without reserve ratified the agreement of December 23, the advisers and authorities of the Leipsic League, assembled at Leipsic, Jan. 11, 1914, learned with great surprise that the termination of the conflict has not yet been secured in several places, for instance, Brunswick, Breslau and Elving, by the immediate discharge of the medical emergency men, according to the eleventh section of the agreement. They regard the performance of the conditions of this section as an unconditional prerequisite for the fulfilment of the agreement, and are of the opinion that if these conditions are not promptly complied with, the validity of all the contracts that have so far been made on the basis of the agreement will be placed in doubt, and an important reason for their immediate abrogation will be afforded. The advisory board would most deeply regret that the physicians should be compelled to renew the struggle for this reason.

I have no doubt that the few rebellious insurance authorities will yield, for the government has finally recognized the true significance of and justification for the demands of the medical profession, and will spare no pains to break the opposition of the insurance societies.

Increase in the Excess of Births in Prussia

The latest statistics show that there is a slight increase in the excess of births over deaths in Prussia. The figures indicate, however, that calculated per thousand inhabitants the reduction in the birth-rate has not yet ceased. The diminution in the number of marriages is also notable. In the cities this reduction is evidently connected with the unfavorable economic conditions.

The Charlottenburg Housing Office

On account of the great importance of housing conditions for public health and social conditions, a number of large cities have of late devoted great attention to the organization of supervision of dwellings and have created institutions for the purpose of carrying out such control of the housing conditions. Thus, housing bureaus have been established in Berlin as well as in Charlottenburg. A member of the Charlottenburg administration has lately reported his experience in the work of the Charlottenburg Housing Bureau during the first two years of its existence. This report will attract general interest. The theoretical foundation for the work of this bureau is first a housing survey, which determines how the poorer classes of the population live, especially how the lodging-houses and the accommodations for servants are constructed, as this style of living is the source of harm in regard to culture, morals and health. By systematic determination of these evils a housing reform will be prepared for. The removal of the present defects is a second theoretical basis for the Housing Bureau, which included the care of dwellings, and is an interference with the private rights of individuals, which demands therefore strict rules that will prevent any arbitrary proceedings. It is not through police regulations but by the establishment of minimum requirements as to the condition of the house, the separation of the sexes and the relation of landlord and renter that this aim ought to be reached. A cooperation of regular officers and voluntary helpers and the employment of women have been of great service in the Charlottenburg organization. There are three house inspectors who have had a technical education and one full time visitor who has had an education in sociology and is employed in caring for the social conditions. The inspectors examine the dwelling and indicate on the house cards the way in which the defects which are found should be remedied. When extensive changes are requisite, their institution is determined by the housing committee, of which there are fourteen, each consisting of four persons, one a city physician (poor physician). Superior to these committees is the deputation for housing affairs, which decides questions involving general principles and promotes such positive measures as the assistance of popular building-societies, the erection of homes for single people, etc. To this deputation a large number of expert citizens, including three women, belong. Each citizen delegate is also a member of a housing committee. Those matters which cannot be settled here are referred to the police as the last resort. The assistance of the police is immediately requisite only for the control of the lodging-houses. Connected with the housing bureau is a register of dwellings where all dwellings must be registered. This registration is free. In the first two years of the work of the housing bureau 557 houses were inspected, in which 1,171 defects were found and were charged to the owner. In 5,400 flats (only apartments of two rooms and a kitchen were inspected, of which there are 40,000) there were found 2,400 defects which were caused by the renter. The defects consisted especially of failure to separate the sexes, unauthorized introduction of lodgers and a lack of beds. A seventh of all the water-closets served for more than two families; 209 corridors and dark chambers were used as sleeping-rooms; 140 apartments were completely, and 1,702 partly overcrowded, if the standard of 4 square yards (4 square meters) of floor-area for each person is adopted. Of 2,000 such defects only 259 have not yet been remedied in the second year. Of 89 cases of overcrowding the first year, there were only 14 not remedied by the end of the second year. Thirty-seven cases were settled by transfer to other apartments with the help of the apartment register. Ten flats were voluntarily closed on account of insanitary conditions, and 57 water-closets were constructed without help of the police. There were 866 bedrooms used by lodgers in common with members of the family, and in 1,389 cases the use of the kitchen by lodgers was permitted.

Marriages

Frederick D. Cartwright, M.D., Bowling Green, Ky., to Miss Mayme Mitchell of Glasgow, Ky., at Louisville, January 15.

Arthur Moses Greenwood, M.D., Marblehead, Mass., to Mrs. Josephine Lyons Pemberton of New York City, January 17.

Chauncey Walter Strauss, M.D., Copperhill, Tenn., to Miss Dorothy G. Beyland of Newport, Ky., Nov. 27, 1913.

Harry Leslie Langnecker, M.D., to Miss Josephine Roome Macdonald, both of Cambridge, Mass., January 28.

DeWitt Carter Adams, M.D., Detroit, to Miss Helen Brownlee Brooks of St. Louis, at Detroit, January 21.

Thomas Grover Orr, M.D., North Bennington, Vt., to Miss Helen Harris of Syracuse, N. Y., Dec. 22, 1913.

John Lee Riley, M.D., Henryetta, Okla., to Miss Frances Lamping of Little Rock, Ark., Dec. 11, 1913.

Clarence Arthur Read, M.D., to Miss Elizabeth Bosworth, both of New Rochelle, N. Y., January 15.

Charles McClure, M.D., Cox's Creek, Ky., to Miss Mary Ellen Lisco of Bardstown, Ky., January 29.

Nina Leola Allen, M.D., San Diego, Cal., and William E. Gird of Bonsall, Cal., January 14.

Frank Homer Kennedy, M.D., to Miss Nellie Youngs, both of Greenwood, Wis., January 14.

Frederick James Port, M.D., to Miss Gretchen Blaser, both of Milbank, S. Dak., January 28.

William C. Wessel, M.D., to Miss Anna Roethemeier, both of Hermann, Mo., January 18.

Mark Hornstein, M.D., to Miss Henrietta Offerman, both of New York City, Dec. 21, 1913.

William Barton Skelton, M.D., to Miss Edna Dunstan of Dollar Bay, Mich., January 6.

Cleveland H. Shutt, M.D., to Miss Alice Bock, both of St. Louis, January 22.

Deaths

Brigadier-General Alfred C. Girard, U S Army, retired; died at his h[illegible] D C, January 31, after an operation for [illegible] He was born in Switzerland, July 31, 1841, was graduated from the University of Wurzburg, Germany, in 1864, and entered the United States Army as acting assistant surgeon, Jan 19, 1865 In 1867 he was made assistant surgeon U S Army, and after passing through the various grades was retired as brigadier general at his own request, April 7, 1905 During his service he passed through several Indian campaigns and acted as chief surgeon of the Second Army Corps during the Spanish American War After his retirement he resided in Chicago, and was librarian of the medical department of the John Crerar Library until 1911, when he moved to Washington General Girard was a Fellow of the American Medical Association and a member of the Association of Military Surgeons of the United States and was at one time Medical Director of the Department of Idaho of the Grand Army of the Republic

Andrew Flint Sheldon, M D New York University, New York City, 1852; assistant surgeon of the Seventh New York Volunteer Cavalry, and Seventy Eighth New York Volunteer Infantry, later executive officer in the medical director's office, Washington, commissioned major and surgeon of United States Volunteers, and placed in charge of the Campbell United States General Hospital, Washington, and brevetted lieutenant colonel for meritorious services during the Civil War, treasurer of Wayne County, N Y., for three years, died at his home in Lyons January 24, aged 83

Gustave R. Feil, M D University of Wooster, Cleveland, Ohio, 1891, a member of the Colorado State Medical Society, visiting physician to the National Jewish Hospital for Consumptives and Mercy Hospital, Denver, died at his home in Denver, January 16, from the effects of a gunshot wound of the head, self inflicted, it is believed, with suicidal intent, while despondent on account of ill health, aged 42

Stephen L Powlett, M D. (license, Louisiana) a practitioner for forty three years, ambassador from the United States to Guatemala during Cleveland's administration, later a practitioner of New Orleans and Hammond, La, and mayor of the latter city, at one time colonel on the staff of Governor Sanders and surgeon general of the National Guard of Louisiana, died at his home in Hammond, January 7

George C. Losey, M D Northwestern Medical College, St Joseph, Mo, 1888, a member of the Missouri State Medical Association and a practitioner of Almon, died Dec 2, 1913, from the effects of an accident which occurred while he was returning from a meeting of the Hickory County Medical Society

A Carl F. Reinhard, M D. University of Marburg, Germany, 1870, a Fellow of the American Medical Association, surgeon in the Prussian service during the Franco German war, and for a time a surgeon on transatlantic steamers, a practitioner of Milwaukee since 1876, died at his home January 12, aged 66

Alonzo F Huntoon, M D Missouri Medical College, St Louis, 1881, formerly a Fellow of the American Medical Association, a member of the Medical Society of the State of California, died at his home in Los Angeles January 13

Philip Benton Spears, M D Georgia College of Eclectic Medicine and Surgery, Atlanta, 1891, a member of the Medical Association of the State of Alabama, died at his home in Florala, January 12, from heart disease, aged 61

James J. Richardson, M D University of Louisville, Ky, 1866, a Confederate veteran, for many years head physician of the Cumberland Sanatorium Lebanon, Tenn, died in that place, January 8, from bronchial asthma, aged 73

Curtis William Otwell, M D Columbus (Ohio) Medical College, 1876, a veteran of the Civil War, in which he served as an assistant surgeon, died at his home in Independence, Kan, January 8 from senile debility, aged 76

Joseph Bailey Thomas, M D University of Iowa, Iowa City, 1883 for thirty years a practitioner of Carthage, Mo, died in the Touro Infirmary, New Orleans, January 7 three days after an operation for gastric ulcer, aged 54.

John V. Webster, M D Cincinnati College of Medicine and Surgery, 1870, of Flushing, Ohio, died in the Columbus State Hospital, January 6 from tuberculosis aged 66

James Roy McIntire, M D. Southwestern Homeopathic Medical College, Louisville 1902; died at his home in Carlisle, Ky, January 9, aged 32

Edward Warren King, M.D. Cooper Medical College, San Francisco, 1863, from 1892 to 1912, superintendent of the Talmage (Cal) State Hospital, died at his home in San Francisco, January 11, aged 82

Joseph W. Newcomer, M.D. Jefferson Medical College, 1864; a member of the Illinois State Medical Society; for forty-eight years a practitioner of Petersburg; died at his home in that city, January 14, aged 75

John Washington Farill, (license, Cherokee County, Ala, 1887) a member of the Medical Association of the State of Alabama, died at his home in Farill, Dec 15, 1913, from senile debility, aged 83

Robert C. Young, M D. McGill University, Montreal, 1873, from 1874 to 1911 a practitioner of Ridgetown, Ont, and since that time a resident of Detroit, died at his home Nov 25, 1913, aged 63

James A. Sexton, M D University of Maryland, Baltimore, 1873, a Confederate veteran and later register of deeds of Harnett County, N C, died at his home in Harnett, January 7, aged 69

John S Whatley, M D. Tulane University, New Orleans, 1880, a director of the First State Bank of Chillicothe, Tex; died at his home in Chillicothe, January 12, from pneumonia, aged 59

Charles Orendorff, M D. University of Pennsylvania, Philadelphia, 1862, for fifteen years a resident of Colony, Kan, died at his home in Yates City, Kan, Dec 26, 1913, aged 81

Alfred Huntington Ketchum, M D. University of Alabama, Mobile, 1871, since 1873 a practitioner of Texas, died at his home in Navasota, December 24, aged 66

Mary J. McCleery, M D. Woman's Medical College of New York Infirmary, 1877, died at her home in New York City, January 12, from heart disease, aged 70

Thomas Osgood Reynolds, M D Albany (N Y.) Medical College, 1866, a veteran of the Civil War, died at his home in Kingston, N H, Dec 12, 1913, aged 71

August Wilhelm (license, California, 1876); a practitioner for fifty three years, died at his home in San Francisco, January 6, from arteriosclerosis, aged 80

Isaac B Loos, M D. Jefferson Medical College, 1888, a Fellow of the American Medical Association, died at his home in Trenton N J, January 13, aged 50

Ansel Strickland, M D Atlanta (Ga) Medical College, 1880, a practitioner of Cumming, Ga, for more than thirty years, died at his home January 7, aged 55

Joseph B. Rush, M D University of Mobile, 1873; a Fellow of the American Medical Association, died at his home in Orlando, Fla, Nov 18, 1913, aged 67

William C Meredith, M D. University of Iowa, College of Homeopathic Medicine, Iowa City, 1884, of Nooksack, Wash, died in Seattle, Wash, Oct 14, 1913

Joseph W Coyner, M D. Pulte Medical College, Cincinnati, 1878, of La Jolla, Cal, died in San Diego, Cal, January 8, from strangulated hernia, aged 62

John Caven, M D. Victoria College, Coburg, Ont, 1886, L R C P Lond 1886, died at his home in Toronto, December 10, from nephritis, aged 52

David Hassan Sleem, M D. New York University, New York City, 1889, died at his home in Valdez, Alaska, Oct 11, 1913, from heart disease, aged 50

Robert W. Billups, M D. Flint Medical College, New Orleans, 1903, a colored practitioner of Harwood, Ark, was killed at Lake Village, Ark, recently

Lewis V. Melton, M D Hospital Medical College, Eclectic, Atlanta, Ga, 1909, died at the home of his father in Chesterfield, S C, January 4

William John E Rush, M D. Medico Chirurgical College of Philadelphia, 1896, died at his home in Allentown, Pa, about January 8, aged 40

J. Morring Beeson, M D. University of Alabama, Mobile, 1897, of Wauchula, Fla, died in a sanitarium, January 9, from diabetes, aged 40

John S. Hougham, M D. Eclectic Medical Institute, Cincinnati, 1869, died at his home near Perkinsville, Ind, January 6, aged 74

Henry P. Howard, M D. Columbian University, Washington, D C, 1851; died at his home in Dallas, Tex, November 21, aged 82

Max Dantes, M D. Bellevue Hospital Medical College, 1893; died at his home in New York City, January 7, aged 41

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

SAL HEPATICA

Report of the Council on Pharmacy and Chemistry

Sal Hepatica, marketed by the Bristol Myers Co of New York, has been refused recognition by the Council, because its composition is secret, because it is advertised indirectly to the public for the treatment of diseases, because exaggerated and unwarranted claims are made for its therapeutic qualities, and because the name fails to indicate its chief constituents but does suggest its use in liver disorders

The Council has authorized the publication of the report of its referee, because it is an important illustration of the ways in which physicians are being made parties to the introduction to the public of a patent medicine, whose indiscriminate use must often have resulted in harm, direct or indirect

W A Puckner, Secretary

The report of the referee follows

Sal Hepatica is a saline laxative sold by the Bristol Myers Company of New York No information seems to be given regarding its composition except such as is contained in the following vague and uninforming phrases

"Effervescent saline combination, hepatic stimulant, laxative and an eliminant of irritating toxins"

"Sal Hepatica is a saline combination containing the alterative and laxative properties similar to the natural 'Bitter Waters' of Europe with the addition of sodium phosphate "

" more palatable and efficient than sodium phosphate alone or other salines"

A circular around the bottle contains the following

"We invite the physicians' careful consideration of the merits of Sal Hepatica in the treatment of Rheumatism and Gout, in Constipation and Auto intoxication, and to its highly important property of cleansing the entire alimentary tract, thereby eliminating and preventing the absorption of irritating toxins and relieving the conditions arising from indiscretion in eating and drinking"

In the same circular, its promiscuous use is invited in these terms

"Owing to its palatability, Sal Hepatica is particularly well adapted to the requirements of childhood or the feeble and delicate"

Further suggesting its use in the treatment of that popular, if somewhat vague ailment, "biliousness," we read

"It is especially valuable where there is intestinal sluggishness arising from functional derangements of the liver or portal circulation "

As further suggestive of its all around "goodness," are the claims

"It increases the appetite and promotes digestion by stimulating the flow of gastric juice"

"In rheumatism and gout Sal Hepatica furnishes the physician with an ideal eliminant, usually affording prompt relief"

The label on the Sal Hepatica bottle suggests—both to physicians and the public—its use in the following diseases and conditions

"Derangements of the stomach and liver"
"Affections of the kidneys"
"Bilious attacks"
"'Summer complaints' colic and alcoholic excesses"
"Headache dizziness, heartburn and seasickness
"Acute indigestion
"Gastric hepatic and renal disorders
"Especially beneficial in rheumatism and gout"

From these quotations it is evident that Sal Hepatica is in conflict with

Rule 1, in that its composition is not disclosed, although statements are made which are likely to give a false impression as to what it is;

Rule 4, in that the statements on the label and in the circular around the bottle advertise it to the public and thus makes the physician who recommends it an advance agent for the nostrum,

Rule 6, in that exaggerated and unwarranted claims are made for its therapeutic qualities, and,

Rule 8, in that its name fails to indicate its chief constituents but does suggest its use in liver disorders

The absurd claims made for this preparation are such as to put it in the "patent medicine" class Even the most credulous members of the medical profession certainly can take no stock in the claim that a preparation can be an "eliminant" of uric acid, a hepatic stimulant, a remedy for gout, rheumatism, liver disease, indigestion, etc, why then should such a preparation be tolerated!

In its conflict with Rule 4 Sal Hepatica belongs to that class of nostrums which have been so successfully exploited by manufacturers through the unwitting efforts of thoughtless and careless physicians The Bristol Myers Company has been most liberal in distributing free samples, evidently with the assurance that physicians would do the rest Thus, at the present time, the profession is being supplied with a package containing one regular 25 cent bottle and five single dose vials bearing the name Sal Hepatica If only a small percentage of the physicians who receive these samples distribute them, the increase in Sal Hepatica consumers may be imagined How successful this scheme of the Bristol Myers Company has been is only too evident Sal Hepatica is one of the best selling laxatives in department stores and drug stores to day

While the evils of indiscriminate purgation are now generally recognized, the referee wishes to quote and to indorse the pertinent comments on this subject by The Journal [1]

"The abuse of saline cathartics by the public is an evil deserving of serious attention Rightly or wrongly, the laity fear constipation and naturally take what they are taught to believe is the cheapest and simplest course for its relief, self drugging by means of saline cathartics or the extensively advertised purgative mineral waters This habit is responsible for much of the distressing spastic constipation that exists, and its accompanying neurasthenia The advertisement and sale to the laity of such a nostrum as "Sal Hepatica" can only increase these evil results and the physician who aids and abets the evil by using the preparation should reflect whether he is thereby not only encouraging a fraud on the public but also, what is even worse, helping to impair the public health"

It is recommended that this report be authorized for publication in order that physicians may know the extent to which they have been made to act as advance agents for "patent medicines" It is hoped its publication may suggest to those who in thoughtlessness have recommended Sal Hepatica, that they go to their materia medica and renew acquaintance with the host of simple and efficient laxative salts which are available—magnesium sulphate, sodium sulphate, sodium phosphate and the palatable effervescing preparations of these which the Pharmacopeia provides—effervescent magnesium sulphate (Magnesii Sulphas Effervescens, U S P), effervescent sodium phosphate (Sodii Phosphas Effervescens, U S P).

LIPPINCOTT'S MAGAZINE

Its Advertising—A Protest and An Excuse

A few days ago a physician wrote to The Journal enclosing two advertisements taken from the current issue of *Lippincott's* magazine One of these was a half page advertisement of that outrageous fraud, the "Oxydonor", the other was a full page advertisement of J B Lippincott Company, Philadelphia, calling for salesmen "to present standard medical books to physicians only"

The physician sending in this material asked us to send to Lippincott's a pamphlet showing the fraudulence of the Oxydonor Instead of doing so we sent the pamphlet to the physician and suggested that he write a personal letter in the belief that individual missionary work is the most effective way of fighting fraud. Accordingly the doctor wrote to *Lippincott's* and received in reply this letter from the advertising department of that publication:

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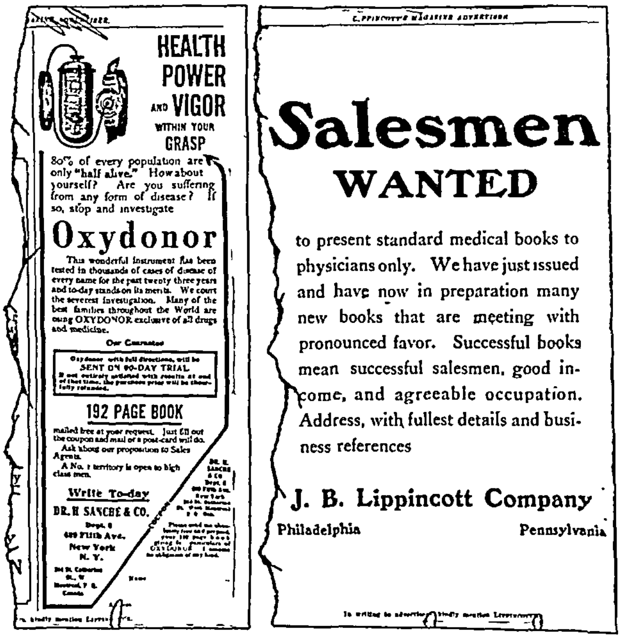
[1] The Journal A M A, March 26, 1910, p 1071

> "Your letter of the 23d received, and in reply beg to say that we do not approve of fraudulent advertising, and we have never before been advised that the advertisement to which you call our attention was objectionable. *In fact, we know nothing whatever about it.* [Italics ours.—ED.] It came to us, as do most of the others, through an advertising agency, and while we do not willingly publish anything that is fraudulent or objectionable, *it is not our custom to verify the claims of advertisers,* [Italics, again, ours.—ED.] especially when the same copy is being run in almost every other high-grade publication.
>
> "We have a very high regard for the American Medical Association, and they undoubtedly are doing a splendid work in ridding the country of fake medical preparations, but the mere fact that they condemn some one of our advertisers is hardly sufficient proof for us to refuse the advertising, because, *if the advertiser desires to do so, he can make us prove in the courts that he is a faker, or claim damages from us for refusing to publish his advertisement.* [Our italics.—ED.]. If the American Medical Association will guarantee to protect the publishers against loss from damage suits brought by advertisers whose business they refuse to accept, then, we believe that the publishers would gladly reject them, but not many of the publishers are in a position to investigate the merits of all the advertising that is offered, especially when the claims are backed up by affidavits of reputable people who believe themselves to have been cured by the preparation.


HEALTH POWER AND VIGOR WITHIN YOUR GRASP

80% of every population are only "half alive." How about yourself? Are you suffering from any form of disease? If so, stop and investigate

Oxydonor

This wonderful instrument has been tested in thousands of cases of disease of every name for the past twenty three years and to-day stands on its merits. We court the severest investigation. Many of the best families throughout the World are using OXYDONOR exclusive of all drugs and medicine.

Our Guarantee

Oxydonor with full directions, will be SENT ON 90-DAY TRIAL.

192 PAGE BOOK

mailed free at your request. Just fill out the coupon and mail or a post-card will do.

Ask about our proposition to Sales Agents.

A No. 1 territory is open to high class men.

Write To-day

DR. H. SANCHE & CO.
Dept. 6
489 Fifth Ave.
New York
N. Y.

Salesmen WANTED

to present standard medical books to physicians only. We have just issued and have now in preparation many new books that are meeting with pronounced favor. Successful books mean successful salesmen, good income, and agreeable occupation. Address, with fullest details and business references

J. B. Lippincott Company
Philadelphia Pennsylvania

Photographic reproduction (much reduced) of two advertisements from January, 1914, *Lippincott.* One of a fraudulent quasi-medical device, the "Oxydonor"; the other, calling for salesmen to introduce "standard medical books to physicians."

> "We certainly do not wish to jeopardize our medical publications by advertising fake schemes or propositions of any kind, and we thank you for writing us concerning the matter and will now look into this particular case."

This letter discloses the workings of the brain of an advertising man of the old school. The principles enunciated therein are those that dominated the advertising field until quite recently. They represent the *laissez faire* doctrine as applied to advertising. At that time the only unacceptable advertising copy was that which would debar the publication using it, from the United States mails. This was the yardstick by which all advertising was measured—at that time.

The economic conscience has since awakened. There are few reputable magazines to-day, we venture to believe, that would be willing to go on record to the effect that it is not their "custom to verify the claims of advertisers." The modern, progressive advertising man recognizes not only the responsibilities his profession imposes, but also realizes that, from the narrower view of enlightened self-interest, the greatest menace to the future of modern advertising is the fraudulent advertisement.

The claims on the part of the advertising department of *Lippincott's* that it dares not refuse to accept fraudulent advertisements because the advertiser might bring suit against it for refusing to accept his advertisement, is a statement whose falsity is exceeded only by its silliness. Equally preposterous is the statement that *Lippincott's* will willingly refuse to accept fraudulent advertisements provided the American Medical Association will guarantee to protect the Lippincott Company against loss from damage suits that may be brought by the exploiters of the frauds whose advertisements are refused.

It may be news to *Lippincott's* to learn that there are a score and more of newspapers and magazines that are accepting the findings of the American Medical Association on medical frauds and rejecting advertisements of such frauds. There are many newspapers that send us the medical advertising "copy" submitted to them and ask for an opinion on it. When that opinion is unfavorable, these papers refuse such advertisements. This is being done daily. We have yet to hear of any "patent medicine" faker or quack even threatening to bring suit because his advertisements have been rejected.

The advertising department of *Lippincott's* may therefore take heart. When an advertisement of an outrageous fake like the Oxydonor is submitted to it, instead of accepting the money for it, meantime muttering an inaudible protest at the unfortunate position in which it has been placed, it may look the fraud in the eye and say Boo! The faker will not bite.

Before leaving the subject, we are constrained to refer to Lippincott's medical publication, the *Annals of Surgery.* We begin to realize now why that journal offers a welcome haven to such products as Sal Hepatica, Bromidia, Papine, Gray's Glycerin Tonic, Fellow's Syrup of Hypophosphites, et al. Presumably the same "custom" obtains in the acceptance of advertising for the *Annals of Surgery* as for *Lippincott's*, namely that the Lippincott Company does "not verify the claims of advertisers." Possibly the *Annals of Surgery* is afraid that, should it reject the Sal Hepatica advertisement, for instance, it might be haled into court! Let us trust, for their peace of mind, that the publishers of the *Annals of Surgery* do not receive an advertisement from Old Doc Hartman for a full page display of Peruna. The mental anguish they would undergo in reluctantly accepting this advertisement—under the fear that Hartman would "claim damages" if it were rejected—is painful to contemplate.

ORRIN ROBERTSON

A Quack and His Seven Sacred Oils

The following interesting letter is from a lady living in one of the southwestern states:

> "Under separate cover I am sending you a copy of a preposterous circular sent out by one Orrin Robertson of Arkansas City, Kan. This paper was given to me by a lady who is connected with me by marriage and who has a cancer in what must be both an inoperative and incurable stage. Instead of going, as I begged her to, to one of the surgeons of M——— when there was only a small lump in her breast, she went first to Johnson of Kansas City, Mo., then to Weltmer of Nevada and now she is planning to go to Robertson.
>
> "It takes her hours every day to wash and cleanse the breast. It bleeds very freely, and has a raw open surface several inches in diameter.
>
> "How any one can take any stock in a man who can publish such a thing is unaccountable to me.
>
> "My doctor advised me to send the publication to you to have Robertson exposed in THE JOURNAL, as you are doing with other charlatans and frauds. You may say that he is not worth noticing, but he reaches *a great many people* who ought to know better, and his bitter denunciation of regular

practitioners and his 'proofs' of the awful things they give as medicines ('glandeine' for instance) are enough to shake the confidence of a very large class of people in the medical profession

"I have no hope of doing any good in the case I write of But an exposé in The Journal might help reputable physicians to keep others from taking the chances of going to him"

The preposterous circular that our correspondent forwards is a twenty eight page advertising sheet called *Robertson's Journal of Anthropology* Robertson calls himself "the Old Reliable Specialist, Discoverer, Originator and Founder of Anthropology, the Pneumo Psycho Manas Soma System" He has been quacking it for many years He was graduated in 1895 by the homeopathic department of the State University of Iowa, but five years before this he seems to have been at San Antonio, Tex His name does not appear again in the medical directories until 1900, at which time he is found at Louisburg, Kan From 1902 to 1908 he was at Quenemo, Kan, where he operated a fake institution known as the "American University of Anthropology" In 1910 he is found at Kansas City, Mo In 1911 he seems to have been at Agra, Okla At present writing he is at Arkansas City, Kan

Robertson claims to be a "graduate of thirty one different colleges, universities and institutions in this country and Europe" Some of the "institutions" from which he holds diplomas or certificates are

> *Society Oriental Mystics,* Chicago, Ill —N E Wood A M M D, president, Thomas J Betiero, M D, secretary, George V Booker treasurer
>
> *The Temple of Moomntaj Lyumbia "Ka Lama Zurija" India,* Chicago Ill Dr L W de Laurence Yoghee and High Caste Adept in Art Magic and Famous Magician of Alchemy and Fire
>
> *Ancient Order of Oriental Mystics,* Chicago Ill Andrew Black Ph D, president, T J Betiero, M D, secretary, E S Adams, treasurer
>
> *New York College of Magnetics* New York E D Babbitt M D dean, F G Welch, M D president board of trustees
>
> *New York Institute of Science* Rochester N Y La Motte Sage president, Thos F Adkins vice president J S Wharton, M D, secretary, Dutton Whitney, M D medical director
>
> *College of Therapeutics,* Boston Kansas City and Los Angeles Joseph Rhodes Buchanan, M D president

If anything further were needed to convince the thoughtful that Orin Robertson is a full fledged quack and fraud, his connections with these institutions should do it

There is nothing, apparently, that Robertson doesn't cure if one is to believe the balderdash he sends out in his *Journal of Anthropology* He particularly emphasizes his success in the "non surgical treatment of gall stones," a field of endeavor that seems to lend itself peculiarly to the quack and the charlatan The typical gall stone cure faker gives his victim a large dose of some bland oil, such as cotton seed oil or olive oil, follows it up by a saline cathartic and points with pride to the "gall stones," as he styles the soapy concretions that persons taking such a mixture pass

Robertson goes the old fake one better, he claims to remove gall stones by means of the "Seven Sacred Oils which grow in seven different climes" Not only this, but Robertson says "I never give the same oils to a person with light hair and eyes that I do to one with dark hair and eyes"

Robertson calls his "seven sacred oils" the "Elixir of Life" He claims

> "One oil acts specifically upon the entire head and throat
> "One oil acts directly upon the esophagus
> 'One oil acts directly upon the stomach

And so it goes, each oil acting a little lower down, until we reach the seventh oil which "acts directly" on the rectum More wonderful yet, we are told

> "In seven minutes after you take a dose of the seven oils rub your hand across the back of your neck and you can smell the oils
>
> 'In fourteen minutes rub your hand across the spine in the thoracic region and you can smell the oils
>
> "In twenty one minutes rub your hand across the spine in the lower dorsal region and you can smell the oils

And so on The figure seven is his Shibboleth Thus

> 'There are seven mineral substances and seven vegetable substances and seven mental substances and seven psychic substances and seven spiritual substances, which, when put together, doth mal a *Magical Compound,* which, when properly applied, according : the temperaments, subverts the diseases of the *Liver* It remov *Gall Stones*"

In addition to gall stones, Robertson also features a "cure for cancer Of course his treatment is "non surgical"—he do not cure by "cutting, burning, blistering or x ray" He ha the usual list of testimonials purporting to be from men an women who have been cured of cancer

To read the advertising matter sent out by Robertson an to realize that this hodgepodge of nonsense and charlatanr can and does deceive and defraud thousands of people, make one gasp at the depths of human credulity It causes th thoughtful to wonder whether the average intelligence in 191 is above that found in the days when magicians, witche gnomes and fairies were established institutions That suc fakers as Robertson are a real menace, however, is eviden from the facts brought out in the letter published above Th emphasizes the need of protecting the credulous sick an ignorant from the dangers to which their credulity and lac of knowledge expose them A state which throws the pro tection of an admirable "blue sky law" around the unsophisti cated investor should not tolerate for an instant such ' meanly fraudulent trade as that carried on by Robertson

MU-COL

Salt and Borax as Wonder-Workers

"Mu col, for Cleansing Mucous Membranes" is a nostrum pu on the market by the Mu col Company (Inc), Buffalo, New York As a specimen of the claims made for the preparation the following is typical

> Mu col obtains most gratifying results in catarrhal inflammations of the mucous membranes Leucorrhea, Tonsillitis Sore Throat, Cystitis Internal Hemorrhoids Nasal Catarrh and Pus Cases respond at once to irrigation with Mu col solution Strong solutions of Mu col have proven of sterling value in treating Hives, Prickly Heat, Ivy Poison, Sunburn, Eczema, Typhoid and Scarlet Fever'

This, and much more Mu col will do—according to its manufacturers! No wonder physicians want to know the composition of Mu col As the manufacturers do not give this information the aid of the Association's Laboratory was invoked Let the chemists speak

LABORATORY REPORT

"The specimen examined was a white powder, and from the odor, thymol, eucalyptol, camphor and oil of wintergreen could be recognized Qualitatively sodium, chloride and borate were found Zinc, benzoate, phenolsulphonate and sulphate could not be found The solution was alkaline to litmus Gravimetric determination of chlorid as silver chlorid and titration of borax by Thompson's method indicated sodium chlorid (NaCl) 47 2 per cent, sodium borate ($Na_2B_4O_7+10H_2O$) 50 1 per cent

"It thus appears that Mu col is a mixture of ordinary salt and borax in equal parts with the addition of a small amount of aromatic substances"

Mu col will do just what a solution of salt and borax will do—no more, no less And yet, it is claimed

> "Mu col has been successfully used since the year 1900 by more than 50 000 physicians which has proven it to be the most Efficient, Economical and acceptable preparation in its field

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What Is a Scientific Attitude?—The attitude of science, to begin with that, is before all things a *disinterested* attitude witness the rise and growth of astronomy, of chemistry, of physiology Until mankind has learned to take experience in serious earnest "for its own sake," to subordinate personal ends to the pursuit of truth, there is no science but only something which at its worst is quackery and pseudoscience, at its best common sense and rule of thumb, and conversely, so soon as a man starts out to examine some aspect of experience as if it were for itself important and knowledge of it were intrinsically desirable, so soon does the germ of a science appear —Titchener in *Pop Sc Month*

Correspondence

Universal Circumcision as a Sanitary Measure

To the Editor.—I was much interested in the article on this subject (THE JOURNAL, Jan. 10, 1914, p. 92). I believe that there are many of us who do not fully agree with Dr. Wolbarst in his sweeping denunciation of non-circumcision. Obviously, this operation is indicated when phimosis exists, and the earlier the better. It is also indicated in elongated conditions of the prepuce, even if not constricted. Most excellent reasons have been advanced for the operation in such cases. But in the man whose foreskin is of such character as partly, or even wholly, to cover the glans when the penis is in a quiescent state, but automatically withdraws at the time of sexual excitement, I can see no valid reason for mutilating the penile organ. An exception might be made to this view of the matter in those who are neglectful of all laws of cleanliness and hygiene, but in this class circumcision is only one of a number of local attentions indicated, provided so extreme a method becomes necessary to keep such part of the person's anatomy clean.

For many years, in patients in whom the procedure is indicated, I have made use of a method which, to coin a name, might be termed a circumcisionoid—at least, so far as the desired results are concerned, for, of course, etymologically considered, the word is a false one—and that is to hold the prepuce back from the glans by action of a rubber band.

Such a fixture, of proper size and properly adjusted, just as fully and satisfactorily "circumcises" the individual as in case of its removal. I habitually make use of this procedure in all my venereal cases, and often as a means of sanitation. Still further, though I am unable wholly to account for the method of healing, I have observed the clearing up of long-standing cases of urethritis and prostatic irritation. In many cases, also, the presence of this band seems to train the parts in such a way as to make the prepuce hold its retracted position permanently, yet it is not lost to its owner.

The bands referred to are such as are ordinarily used as a substitute for twine in holding papers, small packages and the like. Care should be taken to select those having the greater width, in order to avoid injury to the delicate structures encircled.

JAMES BROWN THORNTON, M.D., Boston.

[The foregoing letter was referred to Dr. Wolbarst, who replied.]

To the Editor:—I believe in circumcision as a prophylactic measure; Dr. Thornton advocates the operation as a therapeutic measure. Conservatism is to be found in a wise prophylaxis which submits the infant to a slight and harmless operation, performed in a few seconds, rather than subject him to the serious risks which must be conceded to the possession of a foreskin. I admit that, in a man who is cleanly in his habits, a foreskin which moves freely over a clean glans, does not necessarily have to be removed. How do we know that any infant's foreskin is going to behave in this way when the child becomes a man? If we could foretell that, in adult life, such an infant will keep the glans and foreskin clean, that the prepuce will not be tight or long, that the man will not acquire venereal disease, or that he will not even subject himself to the risk of venereal infection, in such circumstances I should agree with Dr. Thornton that it would be just as well not to "mutilate the penile organ." But we do not and cannot know these things in advance, consequently, since I regard every foreskin as potentially capable of causing the pathologic conditions mentioned in my article, it seems best to take advantage of the accumulated experience of many centuries, and remove this useless bit of flesh, which can be of no possible service, and which we all agree, may do considerable harm.

As to the rubber band plan, two thoughts suggest themselves. The first is that it would be simpler and more efficacious to perform circumcision and be done with it, rather than compel the patient to wear the band all his life; secondly, that the wearing of such a rubber band, tight enough to retain the prepuce in place, might be conducive to a chronic hyperemia or congestion of the glans, which would in all probability give the wearer a sensation that would resemble a "permanent erection," of a mild degree. Dr. Thornton states that "the presence of this band seems to train the parts in such a way as to make the prepuce hold its retracted position permanently, yet it is not lost to its owner." Here we seem to have another argument for circumcision. Why should the prepuce be retracted permanently? And if it is well for the prepuce to be retracted permanently and thus expose the glans, of what good is it that "it is not lost to its owner"? If it does not serve its natural purpose of covering the glans, of what use is it to the individual, retracted back from the glans?

A. L. WOLBARST, M.D., New York.

Emetin Hydrochlorid in Amebic Dysentery

To the Editor:—In THE JOURNAL, Nov. 22, 1913, p. 1899, is reported a case of amebic dysentery treated with emetin hydrochlorid. This is the approved method of treatment for amebic dysentery among missionary physicians in China. In the *China Medical Journal*, March and July, 1913, are reported ten cases and seven cases, respectively, in which all the patients were treated with emetin hydrochlorid hypodermically and all were relieved of their dysenteric symptoms in an almost incredibly short time. In the former series, Case 5 did not respond so readily as the others, and it was not until the tenth day of treatment that the mucus disappeared from the stools. This was a case that had been treated unsuccessfully with ipecac powder six months previously. To me this is interesting, inasmuch as of the four cases I have had since Oct. 16, 1913, all of which were apparently cured with emetin hydrochlorid, the one case that did not respond readily had been treated with ipecac powder one year before. This patient came irregularly to the dispensary for eleven days, and received in six injections a total of 11 grains of emetin hydrochlorid. After the last injection of 2½ grains he was relieved of all symptoms. He showed no nausea or other discomfort as a result of the large dose. Is it not likely that in the two cases cited the previous treatment with ipecac influenced unfavorably the later treatment with the alkaloid?

JOHN H. KORNS, M.D., Tsinanfu, Shantung, China.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

"THE ANATOMIST" OF REMBRANDT

To the Editor:—I am enclosing a photograph of a picture that was a gift to me. I have forgotten the name of the picture and its history, and have been unsuccessful in finding the necessary information. Can you help me?

JOHN R. BLACK, M.D., Jefferson, Iowa.

ANSWER.—The so-called 'Lesson in Anatomy,' or more properly "The Anatomy of Dr. Tulp," was one of the first pictures painted by Rembrandt after he settled in Amsterdam in 1631. As he began to paint in Leyden in 1627 the data of this picture (1632) show it to have been also one of the earliest of his greater works. It hangs in the Hague Gallery. These dissecting scenes were favorite subjects of the Dutch and Flemish painters in the seventeenth century, and Rembrandt derived the idea from the earlier "Anatomies" of Pietersz (1603), Mierevelt (1617), de Keyser (1619) and Elias (1625) in the Amsterdam and Delft collections. The central figure of the picture is Dr. Nicolas Tulp (1593-1674) of Amsterdam who became reader of anatomy to the Surgeons' Guild in 1628, which office he held until 1653, after which he became burgomaster of Amsterdam (1654-1655, 1666, 1671). He described the ileocecal valve, discovered by Bauhin, but also called the valvula Tulpii, and, in 1639, was the first to demonstrate in man the lacteal vessels, which had been discovered by Aselli in the dog in 1622. He also compiled the first city pharmacopeia of Amsterdam (1636), through which the apothecaries were finally compelled to fill prescriptions in a uniform manner. In clinical medicine he made his mark by his description of beriberi (1652), in which he was preceded by Jacob Bontius (1642), the knowledge of this disease having of course been derived from the contact of the Dutch merchantmen with the East Indies. Two other facts go to make up his reputation as a "citizen of credit and renown," namely, that he was instrumental in making tea, which had also just come from the Far East, a household beverage, and that he was the first to describe an anthropoid ape, the chimpanzee, a fact which has been confirmed by Huxley. A fine portrait of Dr. Nicolas Tulp by Nicolas Elias hangs in the Six Gallery, Amsterdam. The names of the other physicians in the Rembrandt "Anatomy," from right to left, beginning with the lower row, are given as: Jakob Block, Jakob de Witt, Adriaen Slabraan, Jakob Koolveld, Hartmanez, Kalkoen and Franz van Loenen. The name of the dissected subject cannot be ascertained, as two dissections were made in Amsterdam during the year 1632. In 1656, Rembrandt painted one other great "Anatomy," that of Dr. Johan Deyman, which was partly destroyed by fire, Nov. 8, 1723, and now hangs, a fragment only, in the Amsterdam Gallery. It represents a dissection of the brain in a foreshortened cadaver, but the head of Deyman himself has been burned off, giving the appearance of a decapitated upright figure. When Sir Joshua Reynolds visited Holland in 1781, he was so much impressed with the execution and coloring of this picture that he said it reminded him of Michael Angelo and Titian. On account of its injury by fire, it was sold to a Mr. Chaplin of London in 1841, was exhibited at Leeds in 1868, and then disappeared, to be found long afterward by Geheimrat Bode, the Rembrandt expert, in the storeroom of the South Kensington Museum. It was then purchased by patriotic Dutch connoisseurs and taken back to Amsterdam.

The Anatomy of Dr. Tulp, by Rembrandt.

PONDER'S STAINING METHOD

To the Editor:—In the *United States Naval Medical Bulletin*, October, 1912, is described a new technic for staining diphtheria specimens with toluidin blue, as follows:

Toluidin blue (Grubler's)	0 02
Glacial acetic acid	1.
Absolute alcohol	2.
Distilled water to	100.

"The film is made in the usual way on a cover-glass and fixed by passing through the flame of a lamp. A small quantity of the stain is spread on the film, and the cover-glass is turned over and mounted as a hanging drop preparation. Typical diphtheria bacilli are said to stain blue with *red granules.*"

Will toluidin blue alone produce the double stain as described *above?* A. E. Conter, M.D., *Chattahoochee, Fla.*

Answer.—This query has reference to the method of Ponder, described in the *Lancet*, London, 1912, clxxxiii, 22. As is well known, the diphtheria bacilli are characterized by the appearance of metachromatic granules at their ends and throughout their protoplasm. These granules stain more deeply with the ordinary methylene blue stain than does the body of the bacillus. With the toluidin stain of Ponder, these granu take a red stain, while the body of the organism is blue. is true that this method does give a double staining w the toluidin blue, but the intensity of the staining is variab Ponder recognizes four types of staining with this stai 1. Certain cells do not take the stain at all. 2. Some ce are entirely blue. 3. Some cells are pink or red througho 4. Other cells show a blue protoplasm with red metachroma granules. In the latter group are found the true diphthe bacilli. Frequent use of this method has demonstrated double-staining power, but has not justified Ponder's asserti that the stain is more valuable than Neisser's.

BOOKS ON THE HISTORY OF MEDICINE

To the Editor:—Please supply me with a list of the recent p lications on the history of medicine.

Joel I. Butler, M.D., Tucson, Ariz.

Answer.—The following is a list of histories of medici published within the last twenty-five years:

Baas, J. H.: Outlines of History of Medicine, New York, W. *Jenkins Company, $6.*
Davis, N. S.: History of Medicine, Chicago, Cleveland Press,
Garrison, F H.: Introduction to History of Medicine, Philad phia, W. B. *Saunders Company*, $6.
Gorton, D A.: *History of* Medicine, 2 volumes, New York, G. Putnam's Sons, $6
Mumford, J. G.: Medicine in America, Philadelphia, J. B. L pincott Company, $3.
Mumford, J. G.: Surgical Memories, New York, Moffatt Yard Co., $2 50.
Neuberger, M.: History of Medicine, New York, Oxford U versity Press; Vol. I, $9; Vol. II in preparation.
Packard, F. R.: *History of Medicine in United States, Philad* phia, J. B. Lippincott Company, $4.
Park, R.: Epitome of History of Medicine, Philadelphia, F. Davis Company, $2.
Payne, J. F.: English Medicine in Anglo-Saxon Times, N York, Oxford University Press, $2.90 net.
Walsh, J J.: Catholic Churchmen in Science, New York, Fo ham University Press, $1.
Walsh, J. J.: Makers of Modern Medicine, New York, Fordh University Press, $2.
Walsh, J. J.: *Old-Time* Makers of Medicine, New York, Fordh University Press, $2.
Wilder, R. N.: History of Medicine, Cincinnati, Scudder Bro ers, $3.
Wootton, A. C.: Chronicles of Pharmacy, New York, The M millan Company, 2 volumes, $6.50.

EFFICIENCY OF FORMALDEHYD STERILIZERS

To the Editor:—1. What is the actual efficiency of the "Eri and other similar "sterilizers" consisting of a glass case wi shelves, with a saucer of liquor formaldehydi on the bottom f the sterilization of (*a*) instruments. (*b*) rubber gloves and (dressings?

2 If these sterilizers are efficient, is it essential that the c should close hermetically? R. S. P.

Answer.—It is impossible to state the actual efficiency any of these formaldehyd sterilizers as no experimental e dence on the subject is available. It is generally accepted a *fact that* exposure *to the* vapors of formaldehyd with sufficiency of moisture in the air is an efficient method of disi fection, *provided that* the concentration of formaldehyd great enough. (*a*) With reference to instruments, inasmu as we cannot well be *sure of absolute efficiency, it is desira* that instruments be boiled before using. (*b*) For rub gloves boiling is certainly preferable. (*c*) It is probable th dressings can be disinfected in this way and subsequently dri but the disadvantage of such a method as compared wi sterilization by steam are *obvious.*

2. The case should be air-tight or nearly so.

SODIUM CACODYLATE IN SYPHILIS

To the Editor:—Is sodium cacodylate an efficient anti-syphili even if given in very large doses? J. G. M.

Answer.—Sodium cacodylate has not been used to a su cient extent to determine its true value, though the eviden seems to be that while it is of *service it is not an agent* be relied on alone. The latest article dealing with this subject that we can find (Sodium Cacodylate in Syphilis, *New York Med. Jour.*, March 2, 1912; abstr., The Journal, March 23, 1912), is by L. J. Spivak, who found that it had practically no effect on a Wassermann reaction. He says that while its action is not so rapid as salvarsan, it gives a result not unlike that of salvarsan.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: New Haven, March 10. Sec., Dr. Charles A. Tuttle, New Haven. Homeopathic: New Haven, March 10. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Eclectic: New Haven, March 10. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

KANSAS: Topeka, Feb. 9-11. Sec., Dr. H. A. Dykes, Lebanon.

MAINE: Portland, March 10-11. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MASSACHUSETTS: Boston, March 10-12. Sec., Dr. Walter P. Bowers, Room 159, State House, Boston.

MISSOURI: Jefferson Hotel, St. Louis, Feb. 9-11. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEBRASKA: Lincoln, Feb. 11. Sec., Dr. H. B. Cummins, Seward.

WYOMING: Laramie, March 10-12. Sec., Dr. H. E. McCollum, Laramie.

HIGH-SCHOOL CREDENTIALS FOR SALE

Illustration of Irregular Methods by Which Commercially Conducted Medical Colleges Admit Students Contrary to Law

In checking up recently the methods employed in admitting students to several of Chicago's multiplicity of medical colleges, a number of irregularities have been found:

(*a*) Students readily gained admission to these colleges, though they previously had been refused admission to other medical colleges—those which had strictly enforced, for every student admitted, the completion of a four-year course in an accredited high school.

(*b*) Students who had failed to complete work satisfactorily in a number of reputable medical schools and who, therefore, had been refused promotion in those schools, have readily gained advanced standing, without such penalty, in these low-standard colleges.

(*c*) Advanced standing, apparently without the requirement of additional work, has also been granted to students coming from notoriously low-grade medical colleges.

These findings led to a further investigation which revealed the fact that many students had in some way received credentials claimed to be "a high school equivalent" but who had completed far less than four years of work in a standard high school. In fact, it was apparent that some who held such credentials had not attended beyond the eighth grade in the public schools; nevertheless, they had secured apparently with ease, this so-called "equivalent" certificate and had gained admission to these schools.

A CREDENTIAL MILL DISCOVERED

In this investigation a young man posing as a medical student succeeded in unearthing a credential mill, from which, by the payment of $25, a certificate was secured which was supposed to be based on a legitimate examination covering all the branches of the four-year high-school course. The openness with which this "credential mill" was conducted and the ease with which this young man secured his certificate, justifies the belief that those concerned have carried on a highly profitable business and that many of the students enrolled in Chicago's low-grade medical colleges have secured admission on the basis of these or equally questionable certificates. It will be noted that the methods employed were such as to deceive even the most conscientious inspectors of preliminary credentials, unless effective routine methods of verification are followed.

Although the Bennett Medical College is the institution chiefly referred to in what follows, there is reason to believe that credentials equally unreliable have been accepted by at least two other Chicago medical colleges. Bennett Medical College is only nominally the medical department of Loyola University. It is a stock corporation, all the stock being controlled up to a few weeks ago, at least, according to the statement of Dr. Robertson himself, by Dr. John Dill Robertson and Dr. William F. Waugh. We do not believe that Loyola University appreciates the character of the methods employed at the medical school to which it has loaned its name.

WHAT WAS ACCOMPLISHED

The would-be medical student, Mr. W. R. Cowgill (which is not his correct name), assuming to come from an adjoining state, and stating that he had completed only one and one-half years in a high school, succeeded, through Mr. O. T. Owen, registrar of the Bennett Medical College, in securing from the Balfour Johnstone School, apparently the same institution as the Brooks Classical School, a certificate supposed to represent the equivalent of a high-school education. This certificate, which was signed by Mr. John J. Kerwin, County Superintendent of Schools for Kenosha County, Wis., was obtained after a pretense at an examination, both the questions and the answers having been previously furnished Mr. Cowgill. Even then, such writing as was required for the examination was done in his own room. The certificate thus obtained was accepted at the Bennett Medical College, and on it Mr. Cowgill was enrolled as a freshman student in that college. We will allow him to tell the story in his own words.

Statement by Mr. Cowgill:

The following is a brief outline of how I secured a certificate which was issued through the aid of the Bennett Medical College after a fake examination; how it was accepted at this college as equivalent to a high school diploma, and on which I was entered as a Freshman Student.

Those who were parties to the transaction were: (*a*) Mr. O. T. Owen, Registrar of Bennett Medical College and evidently the controller of the Brooks Classical School; (*b*) Mr. Balfour Johnstone, who operates the Balfour Johnstone School and manages the Brooks Classical School at Room 1017, Schiller Building, 64 West Randolph Street, Chicago, and (*c*) Mr. John J. Kerwin of Silverlake, Wis., County Superintendent of Schools for Kenosha County (with or without his personal knowledge of the methods employed).

The Balfour Johnstone School apparently is an institution doing private tutoring, and conducting quiz classes preparing students for civil service examinations and for entrance to medical schools. My experience, however, shows that not all the methods employed were strictly legitimate. This institution and the Brooks Classical School were apparently one and the same; at least the two occupied the same office, Room 1017 Schiller Building, as already stated.

THE CORRESPONDENCE

On September 13, I wrote Bennett Medical College as follows:

PORT HURON, MICH., Sept. 13, 1913.

BENNETT MEDICAL COLLEGE,
Ada and Fulton Streets, Chicago.

Dear Sir:—I want to go to a good medical college and heard about your college. Please send a catalogue. What would I have to do to start and when would I have to begin? Haven't gone to school much but ain't afraid to work. How much does it cost?

Yours truly, W. R. COWGILL,
1418 Sixth Street, Port Huron, Mich.

In response I received the following form letter from Mr. Owen and an application blank:

Sept. 17, 1913.

MR. W. R. COWGILL,
1418 Sixth Street, Port Huron, Mich.

Dear Mr. Cowgill:—In compliance with your favor received we take pleasure in sending under separate cover Announcement for 1913-14 of Bennett Medical College and which we hope will have your careful reading. We wish to especially call your attention to the list of Faculty, being composed of men eminent in the medical world, also the schedules will convince you of the high character of work done both in theory and practice. Bennett is affiliated with one of the leading Universities of the country; its hospital ownings and affiliation make it a power of strength in the way of practical medical training; its equivalent fully serves the needs and requirements of a medical school of its size and importance finally backed by an Alumni counting over three thousand successful practicing physicians.

As a matter of great concern to you, after the present enrollment has been made up, which will be on or about Oct. 15, 1913, Bennett will be advanced to a "five-year school," and necessitating an entrance requirement of one year University work in connection with the High School credits. In consequence, in order to avail yourself of the present "four-year medical course" it will be necessary to have your early enrollment, together with a certified copy of your entrance credits for filing in the College Office. Also of importance, if lacking entrance credits, let us hear from you and accompanied with full advice.

We are mailing under this cover an Information blank. By your filling out same and returning to us, it will facilitate matters and permit of our advising you regarding entrance credits. The

Fall and Winter Term opens TUESDAY, SEPT. 23, 1913; to enter under present conditions (four-year course) means that you should not delay in writing us.

We will appreciate the favor and your every request for information will have our immediate and best attention. We will hope for your early reply.

Sincerely yours, Bennett Medical College,
O. T. Owen, Registrar.

The application blank which accompanied the preceding letter is as follows, the portions which I filled in being shown by italics:

LOYOLA UNIVERSITY

APPLICATION FOR MATRICULATION

The undersigned hereby applies for admission to the *Medical* Department of Loyola University in the *Freshman* class and if admitted to comply with all the rules and regulations of the College.
Date of Application, *Sept. 19, 1913.*
Occupation, *Salesman.*

	Day	Month	Year	
Birth	*31*	*March*	*1885*	Place, *Fort Gratiot, Mich.*

Chicago Address—————————— Phone———
Business Address—————————— Phone———
References:
Nationality, *American.* Age, *28*
Color, *White.*
Preliminary Education, *St. Clair, Mich., High School. Went first year and part of second, then had to quit and go to work.*
Previous—————— Education——————
Name in Full, *Wm. R. Cowgill.*
Home Address, *1418 Sixth Street, Port Huron, Mich.*
MATRICULATION FEE, $5.00
Approved——————————Dean.
Chicago, ——————————, 19—.

In my application as will be noted, I said that I had only one and one-half years of high school work. The application was returned to Bennett Medical College with the following letter:

Port Huron, Mich., Sept. 19, 1913.

Bennett Medical College
Chicago, Ill.

Gentlemen:—Your letter received. Am returning the application blank filled out. Please let me know soon if I can enter your medical school so I can arrange to come. Was intending to go to St. Louis where I could get fixed all right but would rather stay in Chicago if you can take me as I can get work easily. Can I get my degree in four years? Want to get my diploma earliest time possible and don't want to waste a lot of time on useless high school work.

Please answer soon.

Yours truly, W. R. Cowgill,
1418 Sixth Street, Port Huron, Mich.

The following is Mr. Owen's reply stating that he would take good care of my preparatory credits [See also Fig. 1]:

Sept. 27, 1913.

Wm. R. Cowgill,
1418 Sixth Street, Port Huron, Mich.

Dear Mr. Cowgill:—Your letter and application blank received and after referring same to the Council of the college they state that it will be very satisfactory provided you enter at this time.

We will take good care of your preparatory credits and see that you graduate in the time desired, four years.

Hoping that you will be able to come at once, we remain,

Yours very truly, Bennett Medical College,
O. T. Owen, Registrar.

Note my reply stating that I would enter and pay $25:

Oct. 2, 1913.

Bennett Medical College,
Chicago, Ill.

Dear Sirs:—I got your letter but did not know really what to do. Find I can't get all my money till next January. Can I enter and pay $25 down and $15 or $20 a month? Could pay balance in January. Want to locate in Michigan but am afraid of the Michigan Board. Hear they are awful cranky about a fellow not having a high school diploma. Can't you fix me up with a paper that will go with them? Then can't I clean up this high school business soon after I come? Have enough to pay board, books, etc., for a week or so. After that will need all the time I can get for odd jobs to help pay expenses. Please write soon if this can be fixed all right. Ain't afraid to work but can't afford to come if no chance.

Yours truly, W. R. Cowgill,
1418 Sixth Street, Port Huron, Mich.

Mr. Owen's reply, which follows, advised me that he had referred the matter to the preparatory school:

Oct. 7, 1913.

Mr. W. R. Cowgill,
1418 Sixth Street, Port Huron, Mich.

Dear Mr. Cowgill:—Your favor received and you had best begin at once with the preparatory school to work off a few subjects in advance of your coming and which would meet the requirements of the Michigan State Board, notably 2 yrs. in Latin.

The tuition you desire to pay is entirely satisfactory and as regards working to help meet your expenses, we will have no difficulty along that line, being in a good position to take care of you.

Unless we hear from you, we will refer your name to our preparatory school and they will send you advice regarding all matters.

Sincerely yours, Bennett Medical College,
O. T. Owen, Registrar.

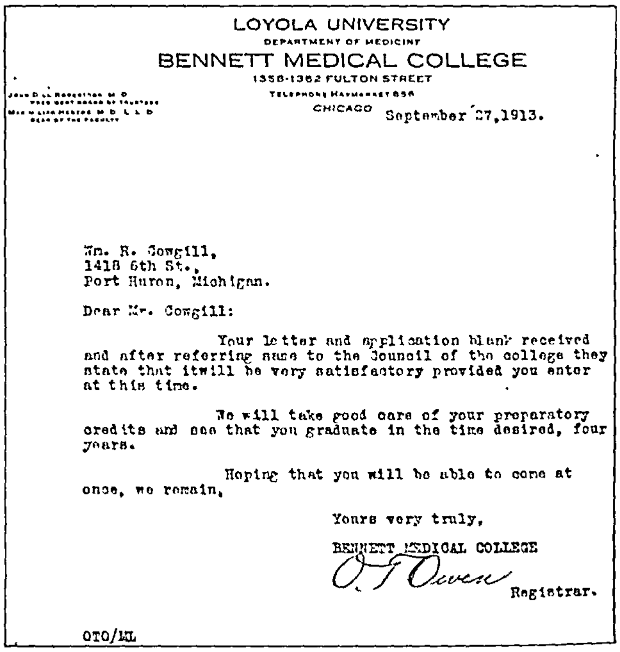
I then wrote as follows requesting that his preparatory school send me advice regarding preliminary matters. I enclosed $5 to pay matriculation fee.

1418 Sixth Street, Port Huron, Mich.
Oct. 13, 1913.

Bennett Medical College,
Ada and Fulton Streets, Chicago.

Dear Sirs:—Intended to come to Chicago the last of this week but find I can't get the money I expected but can doubtless come some time next week. Meanwhile please have your preparatory school send me the advice you suggested regarding all preliminary matters so that I won't have to waste any time after I get there. I must get my diploma in four years as promised in your letter of September 27. Would like to be in shape to practice in Michigan but don't want to waste to much time for the purpose. I am enclosing $5 to pay the matriculation fee. Please send receipt.

Yours truly, W. R. Cowgill.



LOYOLA UNIVERSITY
DEPARTMENT OF MEDICINE
BENNETT MEDICAL COLLEGE
1358-1362 FULTON STREET
TELEPHONE HAYMARKET 858
CHICAGO September 27,1913.

Wm. R. Cowgill,
1418 6th St.,
Port Huron, Michigan.

Dear Mr. Cowgill:

Your letter and application blank received and after referring same to the Council of the college they state that itwill be very satisfactory provided you enter at this time.

We will take good care of your preparatory credits and see that you graduate in the time desired, four years.

Hoping that you will be able to come at once, we remain,

Yours very truly,
BENNETT MEDICAL COLLEGE
O. T. Owen
Registrar.

OTO/ML

Fig. 1.—Note in this letter Mr. Owen agrees to take good care of my preparatory credits and guarantees my graduation in four years.

In the following reply Mr. Owen stated that he would take the matter up with the Brooks Classical School, and enclosed me a receipt for my matriculation fee (See also Fig. 2):

Mr. W. R. Cowgill,
Port Huron, Mich.
Oct. 14, 1913.

Dear Mr. Cowgill:—Your favor received and we are mailing under this cover receipt for matriculation for which please accept our thanks.

We will also take your matter up with the Brooks Classical School and you will hear from them by first mail.

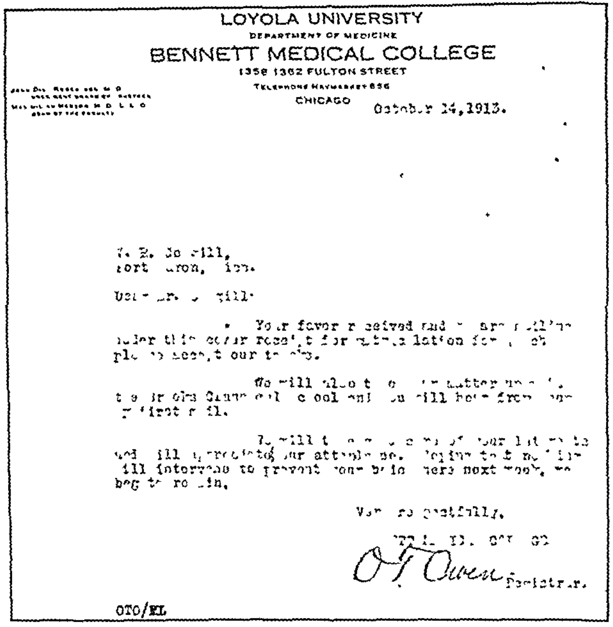
We will take good care of your interests and will appreciate your attendance. Hoping that nothing will intervene to prevent your being here next week, we beg to remain,

Very respectfully, Bennett Medical College,
O. T. Owen, Registrar.

THE PERSONAL INVESTIGATION

Thursday, October 23, I called at the business office of Bennett Medical College and saw Mr. Owen. I told him who I was and that I wanted to get through a medical school in four years, if possible, and did not want to waste any time on preliminary courses. He referred to his correspondence and suggested, inasmuch as I only had one and one-half years of high school work, that I enter at once as a special student, make up the preliminary requirements in six or seven months and take an examination about Jan. 1, 1914.

I told him that I could not afford to spend that much time on an uncertainty and that I had heard that he would fix me up in a couple of weeks by a little studying and an examination. He then told me that he controlled the Brooks Classical School and could fix me up. As evidence of this, he took out of his inside pocket a certificate which had been sworn to before a notary public, stating that a certain person (I think Sage was the name), had taken an examination before a county superintendent of public instruction. He assured me that this was sufficient for the Illinois State Board of Health and was all that the law required. He took a folder out of his pocket and from it read that a physician applying before the Illinois State Board of Health must have a high school certificate or its equivalent, and that should an examination be necessary, it must be taken before a state or county superintendent of public instruction. As the certificate above mentioned was signed by a county superintendent of Wisconsin, I asked him if it was good in Illinois. He said it was. In course of the conversation he said there was no law you could not get around. He told me it would not take long for me to get my certificate, as I would be furnished the questions and answers and that Mr. Johnstone (referring to the man in charge of the Brooks Classical School) would fix me up. He urged me to enter the freshman class of Bennett Medical College that afternoon, but I told him that I would prefer to wait until I had talked the matter over with Mr. Johnstone.



LOYOLA UNIVERSITY
DEPARTMENT OF MEDICINE
BENNETT MEDICAL COLLEGE
1358 1362 FULTON STREET
TELEPHONE HAYMARKET 856
CHICAGO

October 14,1913.

O T Owen Registrar.

OTO/EL

Fig. 2.—Note that Mr. O. T Owen refers to the Brooks Classical School, which occupies the same office, and is apparently the same institution as the Balfour Johnstone School.

THE CREDENTIAL MILL LOCATED

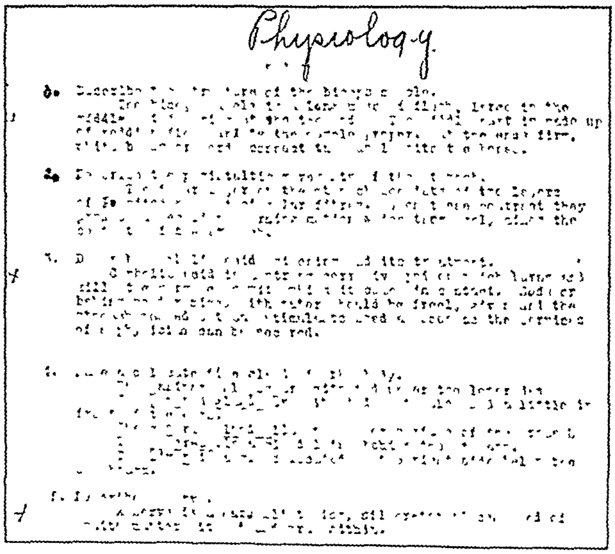
About 5:15 that afternoon Mr. Owen went with me to Mr. Johnstone's office, Room 1017, Schiller Building. On the glass door of this room was the sign: "The Balfour Johnstone School, Brooks Classical School." We met Mr. Johnstone and the three of us talked very quietly about the matter. Mr. Owen stated that I wanted to enter Bennett Medical College, that I had no time to lose, and that he wanted Mr. Johnstone to do what he could for me. Mr. Johnstone explained that he would give me sets of questions which covered the subjects required for the certificate and which had the answers filled in. He said I could easily learn the answers and nobody would know but that I had been attending his school for six or eight months. He emphasized the fact that this was strictly a confidential matter, known only to Mr. Owen, Mr. Johnstone *and myself. Mr. Johnstone said that some man* (apparently referring to Mr. Kerwin) would come to Chicago and give the examination, but that he did not know anything about the preliminary work. He said if he was fortunate enough to get the questions, then I would be the winner. Mr. Owen then told him to let me "go through with the original twelve." I asked Mr. Johnstone how much it would cost and Mr. Owen spoke up and said he would see that I got my certificate for $25. He explained that $15 was to go to Mr. Johnstone and $10 to the one who gives the examination. Mr. Johnstone said that this arrangement was satisfactory to him. Mr. Owen then said I was pretty lucky in getting in now, as next year higher requirements would go into effect.

QUESTIONS WITH ANSWERS GIVEN OUT

I said I would like to get started right away, and with that Mr. Johnstone reached over to a book-cabinet back of me and took off several sheets from a stack of paper that was lying on the top of the books. He gave me several sheets of mimeographed paper which contained the questions and answers for eight subjects, namely: English literature, geometry, botany, civil government, physical geography, *ancient history, medieval and modern history and English* history. He said he would give me the balance when I came again. For each of the eight subjects there were five questions with the answers (see Fig. 3). Mr. Owen told me I had better come in the following Saturday and pay Mr. Johnstone $15, and that I could pay the balance when I got my certificate. I did not go back, however, until Monday, October 27. Mr. Johnstone did not recognize me at first and asked what arrangements he had made with me. I told him in brief what I had come for and then he remembered me. I gave him the $15 as requested by Mr. Owen, for which he gave me a receipt.

I ENROLL AS A MEDICAL STUDENT

The next day, Wednesday, October 29, I went to the Bennett Medical College to enroll. Mr. Owen requested me to fill out another application blank and sign a note for $62.50 for my fees, as I told him I could not pay cash. His young lady stenographer helped me fill out the application and instead of giving my preliminary education as one and one-half years of high school work (see page 478), she told me to insert the words "high school equivalent." My original application blank was then destroyed and the new one placed on file. This change was apparently for the purpose of disguising the fact that my attendance at high school had been for so brief a period.



Physiology

Fig. 3—A reproduction of the examination questions, with the answers, in one of the subjects—physiology.

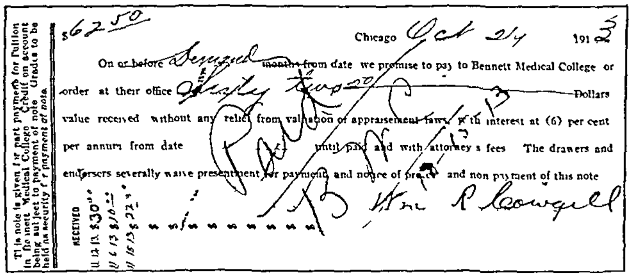
Having fixed my application blank I was sent to the front office to a Mr. Waugh who had a card made out, placing me in seat 57 and section 1 of the freshman class. I then paid $1 for a locker, and after some difficulty secured one.

Friday, November 7, I paid Mr. Owen $10 for the examination. This, added to the $15 already paid to Mr. Johnstone, amounted to $25, which my preliminary certificate cost me.

Tuesday, November 11, and on several other occasions, I visited the Balfour Johnstone School and was quizzed on some of the subjects on which I was to be examined. I asked Mr. Johnstone for the questions covering the remaining subjects. He told me that Mr. Owen had not sent them down, and asked me to remind Mr. Owen about sending him the additional questions.

ADDITIONAL QUESTIONS SECURED

Wednesday, November 12, complying with the request of Mr. Johnstone, I asked Mr. Owen for the additional questions. He took a bundle of papers out of his desk and gave them to his stenographer, who wrapped them up and gave them to me. In a private place I opened this package and found about twenty-five sets of questions covering the additional six subjects on which I was to take examination. Each paper excepting those for German and American history had five questions with answers similar to those given me Thursday, October 23. The paper for German had only four questions and in the paper for American history the fourth question had been omitted. I tied the papers up again and later delivered the package to Mr. Johnstone. He opened the package and gave me one set covering the subjects of Latin, German, physiology, algebra, physics and American history. I had thus been used as a messenger between the Bennett Medical College and the Balfour Johnstone School (Brooks Classical School). I served in the same capacity on another occasion to be mentioned later.



$62.50 Chicago Oct 24 1913

On ~~or before~~ Demand ~~months~~ from date we promise to pay to Bennett Medical College or order at their office Sixty two 50/ Dollars value received without any relief from valuation or appraisement laws with interest at (6) per cent per annum from date until paid and with attorney's fees The drawers and endorsers severally waive presentment for payment and notice of protest and non payment of this note

Wm R Cowgill

Paid B M C

This note is given for part payment for Tuition in Bennett Medical College Credit on account being subject to payment of note. Grades to be held as security for payment of note.

RECEIVED
11 12 13 $30.00
11 6 13 $10.00
11 15 13 $22.50

Fig. 4.—Copy of the note which was given in payment of tuition fees. This note, as will be seen, was paid in three separate installments.

I paid Mr. Owen partial amounts on the note for my medical college fees, as will be seen, and paid the balance about November 15, when it was returned to me marked "Paid, B. M. C." by his stenographer (see Fig. 4).

HOW THE EXAMINATION WAS HELD

Friday, November 21, I called on Mr. Owen and stated that I was going to Mr. Johnstone's school to take my examination. He asked me as a favor if I would take the examination paper down with me. I agreed and he had his stenographer wrap up two or three hundred sheets of yellow paper 8½ by 11 inches, which he got from another room. Thus not only had examination questions (with the answers supplied) been furnished from Bennett Medical College, but also the paper to be used at the examination. I arrived at Mr. Johnstone's school between 11 and 12 o'clock, but since no one else was there, I left saying I would come back later; I wanted to see who else was to take the examination. I went back that afternoon about 1 o'clock, and found two other young men in his office. I sat at the left side of Mr. Johnstone, while at his right sat the two young men just referred to Each of us was given about twenty-five sheets of yellow paper similar to that I had brought from Bennett Medical College. Up to this time I had understood that the examination would be given by a Mr. Kerwin, but Mr. Johnstone stated that inasmuch as there were only three students, Mr. Kerwin did not think it necessary to come down. Mr. Johnstone said he did not see any use of us boys staying there in his office, but told us to take the paper home, and copy off the answers, and return our examination papers by the following night. He said Mr. Kerwin would not know the difference. Only about fifteen minutes were occupied in securing these instructions from Mr. Johnstone.

I followed the other boys out and found they had also come from Bennett Medical College and the three of us walked back to the college together. They had been furnished with mimeographed sets of questions and answers, which, on comparison, I found were the same as those furnished me. One of the boys stated that he had paid $5 on his certificate, but that Mr. Owen wanted more. The other boy stated that he had paid Mr. Owen $15 and did not think that he would have to pay any more. I had paid $25 to get my certificate. We all worked in the dissecting room that afternoon between 2 and 3 o'clock.

ACTUAL WORK REQUIRED FOR THE CERTIFICATE

I went to my room about 4 p. m. and began work on my examination papers. It took me four or five hours to copy the answers from the mimeographed sheets. My previous attempts at memorizing these answers and the copying of them was the only work connected with the examination. I returned my examination papers to Mr. Johnstone Saturday afternoon, November 22.

Tuesday, December 2, I called at Mr. Johnstone's school for my certificate and was advised that they had not heard from Mr. Kerwin. Thursday, December 4, I again called and Mr. Johnstone said that he had overlooked giving Mr. Kerwin the days of the month on which the examination was supposed to have been held. He asked me if I remembered it, and I told him November 21 and 22. I went back on Monday, December 8, and he told me the certificate had been delayed through an oversight on his part, as he had not sent the questions on one of the subjects to Mr. Kerwin. I called at Mr. Owen's office inquiring about my certificate on December 2, and also December 9, and he told me that he expected it most any day.

I GET MY CERTIFICATE

Monday, December 15, when I called at Mr. Johnstone's office, he went to his desk and pulled open a drawer and took out a roll of certificates. He looked at two or three, and then pulled out mine and gave it to me. I examined it and noticing that subjects were mentioned in it in which I had not taken examinations, asked him if the certificate gave me sufficient credits. He said I surely ought to have rhetoric and told me to take up the matter with Mr. Owen and that I could get questions and answers on any additional subjects. Before calling on Mr. Owen, however, the certificate was photographed and a zinc etching made of it. (See Fig. 5.)

Wednesday, December 17, I called at Mr. Owen's office and told him that I had secured my certificate from Mr. Johnstone but wondered whether it gave me enough credits. I showed him the certificate, and he said I would have to have English grammar, composition and rhetoric. He asked me to let him have the certificate and said he would have Mr. Johnstone fill in the extra credits. He said Mr. Johnstone would not do it for me. Nothing was said about examination questions on these additional subjects (English grammar, composition and rhetoric) nor were examination papers in those subjects ever filled out by me. Mr. Owen stated that I would have to leave my certificate with him anyhow, so it would be in the envelope when Father Spalding, who, I was told, was the superintendent of Loyola University, came to check up the students' credentials.

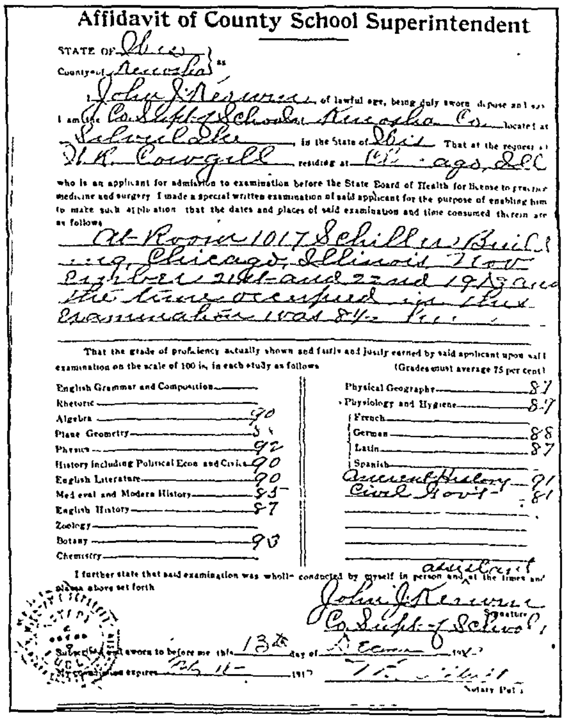
I attended most of the classes from the time I enrolled, October 29, until January 16, when I secured my amended certificate from the Brooks Classical school.

COLLEGE CLEANED UP FOR AN INSPECTION

Thursday, December 18, when I got to the school I noticed that everything was unusually clean. The halls had been carefully swept, the floors had been scrubbed, and clean white cloths had been placed over the cadavers in the dissecting room. This was quite contrary to the usual condition of things. The floor of the freshmen's lounging room in the basement was usually littered with paper, burned matches and cigarette stubs; but all had been carefully cleaned up. It was rumored, and so turned out, that the A. M. A. man was coming to inspect the college, and everybody seemed to be on the jump.

MY CREDENTIALS ARE O. K.'D

January 6, 9 and 12 I called at Mr. Owen's office to see if I could get back my certificate and make sure of the additional credits, but each time I was put off with the excuse that I could not have it as the envelope containing my preliminary credentials had not been O. K.'d. Wednesday, January 14, I again called at Mr. Owen's office, and he told me that the extra grade had been filled in by Mr. Johnstone and that the credentials had been O. K.'d by Father Spalding, whereupon he pointed to an O. K. written on the envelope containing my certificate. By changing the wording of my application blank, therefore, and by securing for me, through questionable means, a certificate of having passed, as required by law, an examination covering all the branches of a high school course, the certificate having been signed by a county superintendent of public instruction, in the presence of a notary public, Mr. Owen evidently succeeded in making Father Spalding believe that I held satisfactory credentials of preliminary education.



Affidavit of County School Superintendent

STATE OF Ohio }
County of Kenosha } ss

I, John J. [illegible] of lawful age, being duly sworn depose and say I am the Co. Supt. of Schools Kenosha Co. located at [illegible] in the State of Ohio That at the request of W. K. Cowgill residing at Chicago, Ill. who is an applicant for admission to examination before the State Board of Health for license to practice medicine and surgery I made a special written examination of said applicant for the purpose of enabling him to make such application that the dates and places of said examination and time consumed therein are as follows

At Room 1017 Schiller Building, Chicago, Illinois Nov eighteen 21st and 22nd 1913 and the time occupied in this examination was 8½ hrs.

That the grade of proficiency actually shown and fairly and justly earned by said applicant upon said examination on the scale of 100 is, in each study as follows (Grades must average 75 per cent)

English Grammar and Composition		Physical Geography	87
Rhetoric		Physiology and Hygiene	87
Algebra	90	French	
Plane Geometry	85	German	88
Physics	92	Latin	87
History including Political Econ and Civics	90	Spanish	
English Literature	90	Ancient History	91
Medieval and Modern History	85	Civil Gov't	81
English History	87		
Zoology			
Botany	93		
Chemistry			

I further state that said examination was wholly conducted by myself in person and assistant at the times and places above set forth

John J. [illegible]
Signature
Co. Supt. of Schools

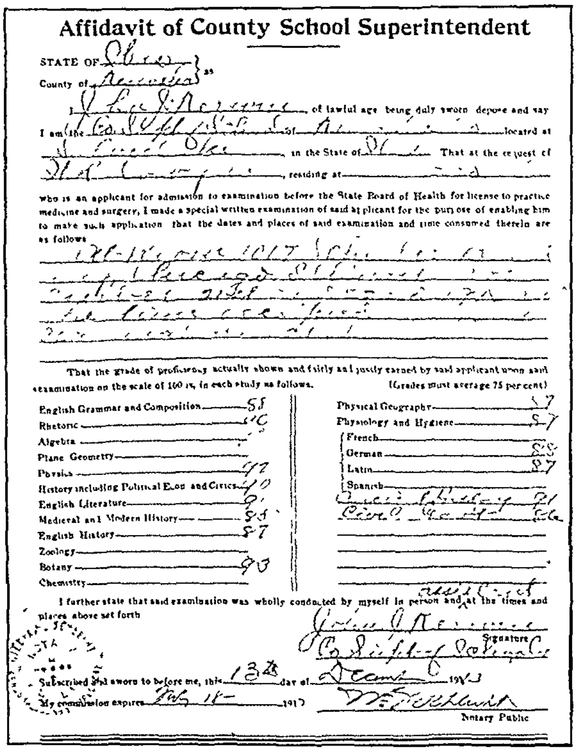
Subscribed and sworn to before me this 13th day of Dec. 1913
My commission expires Feb. 11 1917

Notary Public

Fig. 5.—A reproduction of the certificate secured after a make-believe examination had been gone through with. As will be seen, no grades are entered for the two subjects, English grammar and composition and rhetoric. Note also that the certificate has been sworn to in the presence of a notary public. Compare this with Figure 6.

I GET MY AMENDED CERTIFICATE

I tried repeatedly to get possession of the amended certificate and finally succeeded on Jan. 16, 1914. (See Fig. 6). On giving me the certificate Mr. Owen said he did not have time to make a copy of it, but that I could make a copy of it when I got home and send it to him. I signed a receipt, and his stenographer gave me the certificate. On examining it I found that grades for English grammar and composition and for rhetoric had been filled in—for subjects in which I had not even gone through the form of an examination. It is apparent that Mr. Owen was fully aware that the changes had been made, as they were made at his request. These marks were placed on the certificate between the time I gave the certificate to Mr. Owen, Wednesday, December 17, and when I received it back on Friday, January 16. (See Fig. 4.)



Affidavit of County School Superintendent

STATE OF Ohio }
County of Kenosha } ss

I, [illegible] of lawful age being duly sworn depose and say I am the [illegible] located at [illegible] in the State of [illegible] That at the request of [illegible] residing at [illegible] who is an applicant for admission to examination before the State Board of Health for license to practice medicine and surgery, I made a special written examination of said applicant for the purpose of enabling him to make such application that the dates and places of said examination and time consumed therein are as follows

That the grade of proficiency actually shown and fairly and justly earned by said applicant upon said examination on the scale of 100 is, in each study as follows. (Grades must average 75 per cent)

English Grammar and Composition	55	Physical Geography	87
Rhetoric	60	Physiology and Hygiene	87
Algebra		French	
Plane Geometry		German	88
Physics	92	Latin	87
History including Political Econ and Civics	90	Spanish	
English Literature	9[illegible]	Ancient History	91
Medieval and Modern History	85	Civil Gov't	[illegible]
English History	87		
Zoology			
Botany	93		
Chemistry			

I further state that said examination was wholly conducted by myself in person and assistant at the times and places above set forth

Signature
Co. Supt. of Schools

Subscribed and sworn to before me, this 13th day of Dec. 1913
My commission expires Feb. 11 1917

Notary Public

Fig. 6.—The same certificate as shown in Figure 5 as it appeared when it was returned to me by the Registrar of Bennett Medical College. Between the time I gave it to him (Dec. 17) and the time the certificate was returned to me (Jan. 16) grades had been filled in for the two subjects, English grammar and composition, and rhetoric. I had not even gone through the form of an examination in these two subjects.

Questions and Answers Reproduced

Questions with the answers added were supplied for fourteen subjects. The paper on physiology has been reproduced in Figure 1. Below are printed the first question and answer of seven subjects.

GEOMETRY

1.—Define and give an example of a postulate and of an axiom.

A postulate is a construction admitted to be possible. Example: Let it be granted that a circle may be described with any center at any distance from that center.

An axiom is a statement admitted to be true without proof. Example: The whole is greater than its part.

PHYSICS

1.—What is specific heat? What is Dulong and Petit's law in regard to the connection between specific heat and atomic weight?

Specific heat is the amount of heat required to raise the temperature of any substance through one degree as compared with the amount of heat required to raise the temperature of the same weight of water through one degree.

Dulong and Petit's law states that if the atomic weights of all the elements be multiplied by their specific heats, the result is a constant.

AMERICAN HISTORY

1.—Speak of the differences in ideas concerning the constitution that the federalists and antifederalists had.

The federalists endorsed the Constitution but wished to read into it more power for the Central government, while the antifederalists accepted it with limitations and were anxious to restrict the power of the Central government within the narrowest bounds.

BOTANY

1.—What are the organs of vegetation?
Root, stem and leaves.

PHYSICAL GEOGRAPHY

1.—What is the "fall line" and why are so many cities situated on it?
The "fall line" is an imaginary line running parallel to the Atlantic Ocean from Pennsylvania southward. It marks the place where the Continental block suddenly dips, and lands between it and the sea being low-lying. Cities are situated upon it because all rivers crossing it have falls and thus supply power. The rivers are navigable up to this line and the cities are seaports and at the same time have easy communication with the interior.

ANCIENT HISTORY

1.—Write briefly of the Assyrian Empire.
The Assyrian Empire was founded in 1250 B. C. It rapidly increased in power and subjugated Babylon, Phoenicia, Judaea and Egypt. The Assyrians had a long line of warlike kings, among whom Tiglath Pileser, Sargon and Sennacherib were the most important. They were a military people and cared little for art, science or literature. Their architecture and religion were both borrowed from the Chaldeans. They were a Semitic people and their language resembled that of the Hebrews Their chief city was Nineveh, situated on the east bank of the Tigris River.

CIVIL GOVERNMENT

1.—Describe two important institutions of our national government that are not provided for in the constitution.
Two important institutions of our national government not provided for by the constitution are the President's cabinet and the national conventions for nominating presidential candidates. The President's cabinet consists of nine officers, each of whom is at the head of a department, while collectively they serve as an advisory board for the President

The nominating conventions of the two great political parties are made up of delegates from the various states, each state being entitled to twice as many delegates as it has members of congress. The delegates are chosen by state conventions.

Book Notices

BERIBERI. By Edward B Vedder, A M., M D, Captain Medical Corps, U. S. Army The Cartwright Prize of the Alumni of the *College of Physicians and Surgeons, Medical Department of Columbia University*, New York, for 1913, and published by Permission of the Surgeon-General of U. S Army Cloth. Price, $4 net. Pp 427, with 51 illustrations. New York: William Wood & Co., 1913.

This book presents what is known in regard to beriberi. The history of the disease, its distribution, pathologic anatomy and clinical features, its relation to rice and its etiology as revealed by recent investigations, infantile beriberi, ship beriberi, epidemic dropsy, and theoretical and practical considerations are the principal subdivisions. There are an extensive bibliography and good indexes. Beriberi being "a disease resulting from faulty metabolism, usually only seen in those persons who eat rice as the staple article of diet" and caused by the "deficiency of certain vitamins in the food." Captain Vedder urges the appointment of an international commission to discuss the ways and means necessary to abolish the use of highly milled or polished rice, which no longer contain the necessary vitamins. As the disease is preventable by such seemingly simple means, this recommendation certainly is a sensible one. The book is heartily commended to all who are interested in beriberi and similar diseases. If a new edition is wanted the author should revise the book carefully with a view to improving the literary form.

A [illegible] x PHYSIOLOGY. By Walter B. Cannon, A.M., [illegible] son, Professor of Physiology in the Harvard [illegible] ond Edition. Cloth. Price, $2.50. Pp. 137. [illegible] University Press. 1913.

This is an outline of carefully selected and arranged experiments for a laboratory course in physiology, especially for medical students. The ideals and aims of laboratory instruction are well stated by Dr. Cannon in these words: "That the student may receive the greatest benefit from the discipline of his study, it is essential that he be placed as far as possible on his own resources. He should be required to make and record his own observations, draw his own conclusions, and be urged to suggest further experiments to test these conclusions." The author does not strictly follow this ideal in the book, because in many instances the experiments are outlined in such great detail that nothing is left for the student save the mechanical work. The outline contains no experiments or demonstrations on the organs of internal secretion. It would seem that a laboratory course in physiology in all our first-class medical schools ought to include some work in this important chapter of physiology.

HANDBUCH DER SPEZIELLEN PATHOLOGIE DES HARNS. Von Dr. Med. Ferdinand Blumenthal. Universitätsprofessor in Berlin. Paper. Price, $4.25. Pp. 492. New York: Rebman Company, 1913.

This excellent work is a continuation of the author's "Pathologie des Harns am Krankenbett," published about ten years ago. It is rather too large and extensive for the general student or practitioner, but should be found a valuable addition to the library. The author has not only set himself the task of discussing, both from the practical and theoretical points of view, the many variations to be found in the urine in widely diversified conditions of a local or general nature, but has also elaborated the diagnostic, prognostic and therapeutic deductions to be drawn therefrom. That he has succeeded admirably in carrying his work to a satisfactory completion is evidenced by perusal of the book. The subject-matter is presented in a clear, forceful and comprehensive manner, while the arguments and conclusions are convincing. Bibliographic references are numerous, but it is to be noted that the rather voluminous work of American workers on the various subjects connected with the urine has been largely overlooked. This is, however, not a personal failing of the author, but is, rather, a German custom. There need be no hesitancy in recommending this book to the special worker in this field, as it covers the ground in a thoroughly satisfactory manner and gives an enormous mass of detail. For the general worker it should prove valuable as a reference work.

THEORIE UND PRAXIS DER INNEREN MEDIZIN. Ein Lehrbuch für *Studierende und Aerzte. Von Dr. Erich Kindborg. Volume III.* Cloth Price, 13 marks. Pp. 751, with 75 illustrations. Berlin: S Karger, 1914.

In this volume Kindborg brings to a successful conclusion his attempt to combine the needed knowledge of the fundamental medical sciences with the clinical description of disease. The account of diseases of the kidneys is preceded by a considerable treatise on the examination of the urine. The author even includes the methods of cryoscopy and the determination of the electrical conductivity of the urine, which he acknowledges are too time-consuming and technical for use by the general practitioner. The subject of cystoscopy is illustrated by cuts from actual photographs showing the condition of the bladder in various diseases. The examination of the blood is fully described and well illustrated. The general character of the articles corresponds to that of the first two volumes. The whole forms a valuable handbook for the German reader.

Medicolegal

Having Syphilis Not Conduct Unbecoming an Officer

(People ex rel, Langdon v. Waldo, Police Commissioner (N. Y.), 143 N. Y. Supp. 818)

The Supreme Court of New York, Appellate Division, Second Department, says that this relator was dismissed from the police force of the city of New York on a finding of guilty on charges of conduct unbecoming an officer. The specification was that he had contracted syphilis at some time in the past, and was then affected with it. There was proof in the record that syphilis is an infectious disease, and the court may take judicial notice that it may be contracted by a person entirely innocent of sexual commerce with one tainted therewith. No attempt was made to show that the relator contracted directly this disease as the result of immoral practices or of loose conduct. On the other hand, he was not suffered to testify that such was not the cause of his affliction, if that ailment was established to the satisfaction of the trial commissioner For aught that appeared, the punishment of dismissal was inflicted for innocent misfortune, not conscious misdoing If the relator was tainted with the disease to the peril of present association with other members of the force, that was a matter for physicians to regulate The determination is annulled, and the relator is reinstated, with $50 costs and disbursements

Manslaughter Through Fasting Treatment or Withholding of Food—Admissible Evidence

(State vs Hazzard (Wash), 134 Pac R 514)

The Supreme Court of Washington affirms a judgment of conviction of the defendant of manslaughter The information charged that she did, on Feb 28, 1911, and on divers days between that date and May 20, 1911, wilfully, etc, kill one Claire Williamson by depriving and keeping from her all food and sustenance except the juices of fruits in quantity not to exceed two fluidounces daily, and the broth of vegetables not to exceed eight fluidounces in quantity daily on said days and dates, said food not being sufficient in quantity and quality to sustain life in the said Claire Williamson's body, she being in the care, custody and control of the defendant, etc

Claire and Dora Wllliamson, 34 and 37 years of age, respectively, answered an advertisement of the defendant, and the former conducted correspondence with the defendant during which the latter forwarded to her a book on "Fasting for the Cure of Disease" written by the defendant, and also a pamphlet giving an account of the defendant's sanatorium in Seattle The women finally decided to go to the sanatorium and take a course of treatments, for which they were to pay $60 a month They were then in reasonably good health Dora suffered occasionally from rheumatism and indigestion and Claire from a displacement of the uterus which would readily respond to treatment The treatments consisted in massage or rubbing, the abstaining from food, except fruit juice, asparagus water and vegetable broth with a small bit of butter therein about as large as the thumb nail a warm bath practically every day, and an enema of from four to six quarts of warm water each day The women constantly grew weaker and more emaciated During this time the defendant repeatedly inquired into their family and business affairs, their income, etc, and induced them to give up their papers, money and jewelry for safekeeping by the defendant Claire Williamson, with the help of defendant's attorney, executed a codicil to her will bequeathing an annuity to defendant's sanatorium and signed an order for the amount of her bank balance Less than a month later she died Both women at that time weighed less than half as much as at the beginning of the treatment When they asked for food the defendant told them that the poison was not yet entirely out of their systems, and that to take food might result fatally

The court holds that the information was legally sufficient to charge a crime It did not charge the crime to have been committed on different days but charged continuing conduct between the dates mentioned producing death at a certain time Neither was the information bad for failure to charge a legal duty on the defendant to furnish food The defendant was charged with the crime of murder in the first degree, in that with premeditated design she did kill and murder Claire Williamson by the depriving and withholding from her of food and sustenance except, etc, which produced death This was not the charging of a crime by failure to perform a duty but it was the charging that the crime was committed by an affirmative positive act Under such a charge it was not necessary to allege a duty to furnish food But if such an allegation were necessary it was plainly found in the information, wherein it was said that Claire Williamson was in the care, custody and control of the defendant, who had undertaken to care for her and to provide sufficient food and sustenance to sustain life

Nor was there error in admitting evidence showing transactions of the defendant with Dora Williamson the treatment she received, and the effect thereof The evidence as to Dora was competent for the purpose of showing a plan or scheme on the part of the defendant to effect the death of both of the girls The proof of such plan or scheme would afford grounds for the inference that the defendant was actuated by a criminal intent Besides, the two girls were together when the contract for the treatment was made, they received the same treatment, occupied the same suite of rooms, and were so intimately associated as to make the treatment which the two girls received substantially one transaction Where the conduct complained of constitutes one continuous transaction, evidence of all the facts and circumstances connected therewith is relevant

Certain physicians, in answer to hypothetical questions, were permitted to testify as to the degree of medical skill and care used by the defendant in treating the deceased Complaint was made of this testimony by the defendant, because it was contended that it tended to prove the crime of malpractice, while the defendant was charged with murder in the first degree by the withholding of food The defendant was charged with murder in the first degree by the withholding of food with the premeditated design to produce death Within that charge were included two lesser crimes, that of murder in the second degree, and manslaughter If the defendant did not withhold food with a premeditated design but did withhold food through failure to exercise that degree of care which the law imposes on one practicing her profession, then she would not be guilty of murder in the first degree, but would be guilty of a lesser crime The evidence, therefore, was admissible under the charge as laid in the information

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Society Proceedings

NATIONAL CONFERENCE ON RACE BETTERMENT

Held at Battle Creek, Mich, Jan 8 12, 1914

Under the presidency of Dr Stephen Smith, New York

Dr J H Kellogg, Battle Creek, Mich The object of this conference is the advancement of human welfare The questions to be discussed do not relate to sect or section, finance or politics The purpose of the conference is not to formulate conclusions or propagate doctrines, but to raise questions of world wide significance, and to set in operation methods of inquiry which it is hoped will lead to a disclosure of facts of tremendous importance

The Basic Principles of Race Betterment

Dr Stephen Smith, New York The objects of the conference are (1) to assemble evidence as to the extent to which degenerative tendencies are actively at work in America and (2) to promote agencies for race betterment This includes everything which affects unfavorably the normal development of the human race The second object opens a wide field, as these agencies are innumerable The question as to the effectiveness of any agency will cause great diversity of opinion unless we have a common object in view, and that we have not a common object in our charitable efforts is generally recognized Ignorance is the greatest obstacle to success in the treatment of the defective and dependent Two methods of preventing the propagation of degenerates are practiced—sterilization and segregation These methods are necessarily limited in application

Prevention of Arteriosclerosis

Dr Louis F Bishop, New York Never has the study of arteriosclerosis seemed to be of so great importance as at present, because never before has this disease played so important a part in undermining the efficiency and shortening the lives of workers The mortality from arteriosclerosis is more than double what it was thirty years ago In 1910, one hundred thousand persons died of circulatory disease in this country Arteriosclerosis is a disease of the whole body, characterized by irritation and destruction of the cells, which are replaced by connective tissue It is caused by a great nervous strain, an infectious disease, a surgical infection, or some form of acute food poisoning. From that time the cells are sensitive to proteins. So long as the supply of the special protein continues, the irritation of the cells is kept up, leading to destruction and progressive sclerosis. Impairment of function follows, greater demands are made on the capillary organs, and eventually there is development of the picture of chronic Bright's disease or apoplexy. If at any time it is possible to remove the offending protein the man is capable of being well. The prevention of arteriosclerosis depends on the avoidance of these causes, on the study of food relations and on the institution of a strict regimen. Arteriosclerosis is usually discovered by a life-insurance examiner or a physician who has been treating the patient for some other ailment. It is seldom the result of a single cause. We should adopt the European custom of a combination of vacation and visit to a cure resort. Race betterment must always be a matter of the improvement of the individual. Arteriosclerosis is not a neighborhood enemy—it is your enemy.

The Significance of a Declining Death-Rate

Mr. Frederick L. Hoffman, Newark, N. J.: The present estimated population of the world is approximately 1,750,000,000, equivalent to a density of 34 persons per square mile. The actual annual increase in population is approximately 13,000,000, or at the rate of 7.7 per thousand. The corresponding rate of annual population increase for the United States is not quite 20 per thousand, and the corresponding density 32 persons per square mile. The world's population is increasing rapidly, because of a decline in the death-rate which more than offsets the decline in the birth-rate. During the last thirty years, the general death-rate of the principal civilized countries has declined 24 per cent., from 23 per thousand to 19. The decrease has been most pronounced in the Netherlands, where the present death-rate is only 63 per cent. of the rate prevailing thirty years ago. The corresponding figure for the registration area of the United States is 76. In 1880 the estimated death-rate of the registration area was not quite 20, whereas for 1912 the rate was a little less than 14. A corresponding decrease has been observed for all the principal large cities of the civilized world. During the French administration of the Panama Canal Zone, the death-rate of employees was 61 per thousand, which under American administration has been reduced to 9, and achievement probably without a parallel in sanitary history. The death-rate of non-native British officers in West Africa has declined since 1905 from 28 to 12 per thousand.

In contrast to a remarkable decline in the tuberculosis death-rate in the United States during the last thirty years, there has been a persistent increase in the death-rate from cancer, which to-day is perhaps the most serious menace to the health and longevity of the adult population. A declining death-rate accelerates growth in population, which in turn necessitates conservation of food-producing resources; improvements in agriculture; reduction in economic waste and utilization of waste products; rational control of marriage, fecundity and divorce; physical training of the young and medical supervision of schools and factories; improvements in local health administration, and coordination of health-promoting public and private agencies and institutions. If the prolongation of life is to be really worth while, the present disharmonies of human existence must be eliminated.

Need of Thorough Birth Registration for Race Betterment

Mr. Cressy L. Wilbur, Washington, D. C.: Vital statistics are the bookkeepers of health, and yet in the large proportion of this country the registration of deaths is so useless that we cannot have any statistics in regard to it. Since 1900, however, we have been making a good deal of progress as regards the registration of deaths; but in birth registration there is rather a different picture. The only states in which the registration of births was practically complete in 1911 were Massachusetts, Rhode Island and Connecticut. Michigan had no vital statistics until 1898, when the new death-registration law went into effect. The birth-registration law was not passed until 1905, and went into operation in 1906. If we believe in ourselves as Americans, we should be apprehensive at times about the day when the difference between the birth-rate and the death-rate is blotted out.

NEW YORK NEUROLOGICAL SOCIETY

Stated Meeting held Dec. 2, 1913

(Continued from page 407)

A Case of Brain Neoplasm with Unusual Features

Dr. Louis Casamajor: A negress, aged 14, was admitted, March 7, 1911, with the history of failing sight and hearing, and partial inability to use the right arm and leg. Her symptoms dated back several months and were growing progressively worse. The patient's family history was negative. With the exception of measles in infancy, the child had always been in good health until August, 1910, when she began to complain of headaches, and became cross-eyed. Glasses were prescribed and her symptoms disappeared within six weeks.

In November, 1910, it was noticed that the child slept more than usual and complained of occasional headaches. A month later there was some loss of function in the right arm; the fingers were stiff and numb, and within a fortnight she began to complain of weakness of the right knee and stiffness of the leg. Subsequently, her sight and hearing became impaired and grew progressively worse. Physical examination showed a dull, undersized negress, with a well-marked right hemiplegia, with increased reflexes on this side but no Babinski. An examination of the eyes showed papilledema of about 3 or 4 diopters on each side, with beginning atrophy. Vision was 20/70, right and left. The visual fields were normal; the Wassermann test was negative, as was also the urine.

Operation was performed, March 11, 1911, by Dr. Charles A. Elsberg. A right subtemporal decompression showed that the intracranial pressure was markedly increased. The operation was followed by a hernia cerebri, which grew to the size of a croquet-ball, and the patient's condition became progressively worse. She gradually became totally blind, and could hear only very loud sounds. Her right hemiplegia progressed, and by June, 1911, she was practically bedridden, blind and deaf. In September, the mother, who objected to the large hernia cerebri chiefly on cosmetic grounds, began bandaging the head tightly. With this, the patient immediately began to improve. The hernia became smaller and the child much brighter. The sight and hearing gradually returned, but the hemiplegia remained about the same, and at present the girl is able to see as well as before the operation, although the optic disks look very much atrophied. There is no deafness of any account. The hemiplegia is evident, the right arm being more affected than the leg. She walks with a slight right limp, while the right hand is contracted and useless. The decompression opening is soft, and there are no evidences of any increased intracranial pressure.

DISCUSSION

Dr. B. Sachs: More than ten years ago I saw a case in which operation had been performed to relieve symptoms of intracranial pressure similar to those in the case shown by Dr. Casamajor, which were attributed to the presence of a neoplasm. When the skull was trephined and the dura incised, a vascular tumor of enormous size presented itself. On account of the patient's condition, no attempt was made to remove the growth. The patient recovered from all her symptoms, except that there was no improvement in the double optic atrophy, which had existed prior to the operation.

Dr. I. Abrahamson: There was possibly a cyst near the ventricle, which, aided by the pressure applied, may have emptied into the ventricle; or else a localized posterior basic serous meningitis, with retention of fluid in the larger cisterns; here the increased pressure from without was the means of reestablishment of the circulation of the cerebrospinal fluid.

Dr. Foster Kennedy: In spite of the good results in this case I do not think that pressure on these hernial protrusions can be regarded as a safe therapeutic measure.

A Case of Muscular Atrophy on a Syphilitic Basis

Dr L Casamajor: The patient was a man aged 28, with paralysis and marked atrophy of the muscles of the right shoulder girdle and arm The patient's previous history was negative, except for a syphilitic infection six years ago, which was insufficiently treated About the end of September, 1913, he noticed that his right arm and shoulder were getting weak He first had difficulty in reaching objects over his head This weakness gradually increased, and in the middle of November he was compelled to give up his work, as he could no longer raise the arm

Physical examination, November 24, showed a well built and nourished young man with marked atrophy of the right arm and shoulder girdle muscles. There was total flaccid paralysis of the deltoid and other shoulder girdle muscles Extension of the elbow was fairly strong, but flexion was practically lost The forearm and hand muscles were much weaker on the right than on the left side Measurements showed that the right arm was 1 inch smaller in circumference than the left The reflexes were much diminished in the right arm. There was no sensory loss. The electric reactions showed a partial reaction of degeneration in the right shoulder girdle muscles, and the other muscles of the right arm were electrically hypo excitable There were no abnormal signs in the rest of the body

Serologic examinations gave the following results blood serum, Wassermann positive, cerebrospinal fluid, Wassermann positive, globulin normal, cells, 149 lymphocytes per cubic millimeter. The patient has made slight improvement under active antisyphilitic treatment.

DISCUSSION

Dr Frederick Tilney: I have seen two cases of muscular atrophy with positive Wassermann reactions in the blood and spinal fluid In both instances the atrophy was progressive The trouble started in the shoulder girdle, and then extended to the biceps and triceps and to the muscles of the forearm and hand One of the cases, after eight years, showed distinct involvement of the sternocleidomastoid and trapezius, and the man now has the characteristic deformity resulting from the involvement of those muscles In one of the cases, that of the longest duration, the muscles showed complete reaction of degeneration, while in the others there were some indications of degenerative changes in the muscles.

SOUTHERN SURGICAL ASSOCIATION

Twenty Sixth Annual Meeting, held at Atlanta, Ga , Dec 16 18, 1913

(Continued from page 404)

End-Results in Operations for Cancer of the Breast

Dr E S Judd, Rochester, Minn Results in operations for cancer of the breast are as good as, if not better, than results in operations for cancer elsewhere The prognosis in younger persons who received the benefit of an early operation was better than we had expected The prognosis is variable in a certain percentage. An extensive external involvement may give a fair prognosis, while a slight external lesion may terminate early from internal metastasis Metastases may occur many years after the operation, though in the great majority of instances they will appear in the first few years, if at all The difference between the percentage of patients living over three, five and ten years is not so great as might be expected, but this is because most patients who die of the disease die within the first three or at least the first five years Five years without recurrence means a very small probability of trouble after that.

Hydrocephalus Internus: Lumbar Drainage

Dr Herbert P Cole Mobile, Ala By a meningocele sac formed above a spina bifida I attempted to drain a case of hydrocephalus internus through the sac into the lumbar muscles The drainage was maintained for two weeks without leakage and with relief of the pressure symptoms The child died on the twenty sixth day, from obstruction in the sac

Surgery of the Pancreas

Dr. R C. Coffey, Portland, Ore The peritoneum must be brought to the field of operation in all direct pancreatic surgery. Fat necrosis can occur only when the pancreatic fluid is delivered directly into the extraperitoneal fat Pancreatic fluid is no more dangerous than bile to the peritoneum, provided ample drainage is used to deliver it to the surface at once The pancreatic duct seems to depend on contiguous pancreatic tissue for its nutrition, and, therefore, is not adapted to direct implantation into the intestine. The cut end of the pancreas, carrying an open duct, may be implanted into a loop of intestine with the same assurance that an intestinal anastomosis is made There is a marked tendency of the pancreatic ducts to reestablish continuity around a gap or an obstacle provided the pancreatic fluid is temporarily delivered to the surface If the head of the pancreas is removed and the open end brought to the surface, a pancreatic fistula results which usually closes in a few weeks The secreting portion of the gland is rapidly destroyed leaving a fibrous cord which contains many islands of Langerhans

Pyloric Stenosis in Infants

Dr James F Mitchell, Washington, D C · My experience has been limited to three cases All came to operation early only one patient having reached any degree of emaciation, weighing 5 pounds, 6 ounces, a loss of over 3 pounds since birth. Two were operated on at 7 weeks and the third at 6 weeks of age A posterior gastro enterostomy was done in each instance The pylorus always presented the typical stony hard, olive shaped tumor apparently with occlusion of the lumen They are now healthy, normally developing children, three and one half years, two and one half years, and eight months after operation I have secured a roentgenogram of the second case which shows, after two and one half years, that bismuth is leaving the stomach through the stoma and none by way of the pylorus.

Excision of the Clavicle and First Rib for Malignant Disease

Dr R E Fort, Nashville, Tenn · Primary sarcoma of the clavicle is a rare condition, and the earlier the diagnosis and the more radical the treatment, the better the chances for complete recovery Partial excision of the clavicle or first rib should not be practiced for malignant disease The danger of local or general metastases is very great, and as division of the bone increases this hazard, excision should be made with the bone intact Because of the favorable results obtained in the few cases of sarcoma of the clavicle and the larger number of sarcomas of long bones, it is advisable to use the mixed toxins of erysipelas and *Bacillus prodigiosus* for two or three months after operation Under modern aseptic conditions the mortality for excision of the clavicle and excision of the first rib should be comparatively small, and considering the fate of the patients who are denied surgery, the opportunity of relief by surgery is mandatory.

Congenital Tumors of Neck

Dr C. E Caldwell, Cincinnati · Critical study of these tumors has shown that not all congenital tumors of the neck are branchiogenic From the contributions of Savelli and Florence Sabin, it seems that the evidence adduced proves that the lymphatic cavities described by Veau, and the jugular sacs described by Sabin, are but different interpretations of the same histologic facts, and that in these lymphatic cavities or perhaps more accurately speaking, jugular sacs, we have the fetal *Anlagen* which result by arrested evolution, in the multilocular serous cysts, the nature and disposition of which correspond most accurately with that of these sacs The absence of a true endothelial investment of the sacs or cysts may be explained on the theory of atrophy from intracystic pressure.

Significance of Pain in the Right Iliac Fossa in Young Women

Dr Randolph Winslow, Baltimore: I have come to believe that in young women, unless the symptoms of appendicitis are frank and clear, the condition is probably something else. Pain and tenderness in the right side, without rigidity, elevation of temperature and leukocytosis is usually not appendicitis Again apparently severe and long continued pain in the right side in girls is more likely to be neurotic than appendiceal Pain may also be reflected from the pelvic organs or some of the other viscera, and the primary seat of the disturbance might be determined by a more careful examination I think that we frequently operate too hastily on a diagnosis of appendicitis, without considering sufficiently the other possibilities in the case

Postoperative Acute Dilatation of the Stomach

DR E P. HOGAN, Birmingham, Ala . I have used the following treatment in my own cases The stomach tube is inserted and the stomach emptied of all contents and irrigated with normal salt solution until the water returns clear The patient is placed in the horizontal right lateroprone position This position is in every way convenient and comfortable Continuous proctoclysis is given Everything by mouth is excluded until symptoms are entirely relieved From 1/60 to 1/30 grain of strychnin and 2 grains of spartein are given every four hours If the patient is not prostrated and is nervous and restless, sufficient morphin is given to produce comfort and sleep In some cases it may be necessary to repeat the washing of the stomach and morphin from four to twelve hours later It should be repeated as often as indicated

Extensive Intestinal Resection

DR RAYMOND C TURCK, Jacksonville, Fla I removed 10 feet, 10¾ inches of ileum, together with the cecum, and the ascending and part of the transverse colon because of dense adhesions, numerous partial obstructions, fecal fistula and multiple sinuses The work was done in three stages Serious metabolic disturbances and diarrhea followed Studies of the metabolic processes, eight months after the ileum resection, showed that a probable compensatory hyperplasia of the intestine with consequent compensatory production of enterokinase had taken place, enough, with a regulated diet, to digest thoroughly and assimilate carbohydrates and a moderate amount of fats, but not enough to care for proteins fully A measured diet, adjusted according to caloric values, and through metabolic examination of feces controlled the diarrhea and caused a decided gain in strength and weight Medication had no effect on the diarrhea

Catgut as a Skin Suture

DR WILLIAM PERRIN NICOLSON, Atlanta, Ga The method of closing wounds advocated is the continuous running suture of 00 catgut placed at intervals of from ½ to ¾ inch and passing beneath the skin into the subcutaneous fat, which permits the wound line to fall into perfect apposition, while at the same time the edges can be pulled apart at any point between the stitches This permits of drainage directly between the wound edges into the dressings, doing away with the necessity for a drain, and the blood serum drying in the gauze next to the wound makes a perfect aseptic covering, practically impervious to air and water Such wounds may be left without disturbance until healing is complete, when the dressing is removed permanently All classes of wounds, including scalp wounds, hernia operations, breast amputations, and kidney operations, are closed thus with chromic catgut and left until healing is complete The catgut employed is that sterilized without chemicals, as it has been found that those sutures which contain iodin and mercurial salts have proved irritating to the tissues immediately surrounding the suture

Conservative Treatment of Undescended Testicle

DR ALEXIUS MCGLANNAN, Baltimore The important questions to be decided regarding the conservative treatment of undescended testicle are, first Is the non descended testicle worth saving? Second, is it technically possible to bring such a testicle into the scrotum in a manner that will preserve its vitality? A study of sixteen cases in which I operated, the histology of seven undescended testicles removed by several other operators, and the literature on the subject proves that an affirmative answer should be given to both questions

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

January, LXIX, No 433, pp 1 204

1 *Pharmacologic Action of Ecbolic Drugs C C Lieb New York
2 *Uterine Fibroids Their Relation to Tumors of Thyroid C C Barrows New York
3 *Analytic Study of Pelvic Inflammatory Disease H H Cummings, Ann Arbor, Mich
4 Serology of Pregnancy and Cancer H Schwarz, St Louis
5 *Acute Intestinal Strangulation Caused by an Abnormally Misplaced Appendix J A Lyons, Chicago
6 *Operative Treatment of Mammary Carcinoma C E Ruth Des Moines Ia
7 Puerperal Infection due to Gas Forming Bacteria E Marvel, Atlantic City
8 Omentocolopexy H W Longyear, Detroit, Mich
9 Training of Auxiliary Expulsory Muscles of Labor G Baughman Richmond Va
10 Lumbar and Sacral Backache in Women D W Prentiss Washington D C
11 Treatment of Uterine [illegible] and Non Pregnant Women
12 Diagnosis of Mental Defi[illegible] H H Donnally, Washington, D C

1 **Pharmacologic Action of Ecbolic Drugs.**—According to Lieb ergot owes its pharmacologic action to several constituents, of these, ergotoxin alone is specific Beta imido azolylethylamin, parahydroxyphenylethylamin, and the other sympathomimetic amines are products of the putrefaction which occurs during the manufacture of galenical preparations Each constituent has a distinct pharmacologic action, stimulation of the uterus is characteristic of them all In obstetrics at least, Lieb claims, no single active principle can replace active preparations of whole ergot

Extracts of the posterior lobe of the pituitary gland stimulate all smooth muscle It has been suggested that the active constituent of the infundibulum is the hormone which initiates normal labor The extract of the posterior lobe of the pituitary is the most reliable ecbolic which the obstetrician has at his command Its promiscuous employment during labor is strongly condemned by Lieb Because of the stimulating action of quinin on the isolated uterus it may be employed to induce or strengthen labor pains The improvement that follows the use of the iso quinolines in menorrhagia and metrorrhagia Lieb believes is due not to changes in the circulation or in coagulation time, but to a direct action on the uterus Fluid extract of viburnum stimulates the isolated uterus Its action in dysmenorrhea is therefore not due to an effect on the uterus but to a depression of the central nervous system

2 **Uterine Fibroids** —This paper is a plea for the early removal of all uterine fibroids Barrows has tried every form of electrical treatment, from the electrolysis of twenty years ago to the Roentgen ray of to day, and every variety of internal therapy and he is satisfied that the only correct treatment for these growths is removal

3 **Pelvic Inflammatory Disease** —The histories of two hundred patients who have been treated surgically during the last four years in the gynecologic department of the University Hospital at Ann Arbor, for inflammation of the pelvic structures, were studied by Cummings Gonorrhea leads the list of causes, showing 38 per cent Sepsis following criminal and accidental abortion, or confinement accounts for many of the most virulent and fatal cases of pelvic inflammatory disease The treatment outlined by Cummings, briefly, is Pelvic infection, like other infections, requires general measures, such as absolute rest, stimulation of the emunctories, locally cold applications give relief In the acute stages, hot, long continued vaginal douches hasten the softening of exudates, lessen congestion and relieve pain When a definite mass can be outlined and pus is undoubtedly present, a posterior colpotomy gives the best results Many patients return for a radical removal of the involved organs several months after the posterior colpotomy has been done By that time the inflammation has lost its virulency and the abdominal operation is without incident However, many women are so greatly relieved that the laparotomy is never performed

5. Acute Intestinal Strangulation.—The distal end of the appendix in Lyons' case was attached to or rather deeply imbedded in the abdominal wall near the umbilicus. Its mesentery was spread out fan-shape, having strong abdominal attachments, just above and to the right of the pubic arch, the appendix and mesentery looking as though they were there attached congenitally. The cecum seemed suspended congenitally in the abdomen, well above the pelvis. In the space between the appendix and the abdominal wall, the intestines were strangulated. They had in all probability gradually entered this space when the patient rested or was sleeping on his abdomen (a position he usually assumed when resting or sleeping), and gradually passed until a large loop of them overhung to the left, and finally filled this space tightly, until strangulation and obstruction were complete.

6. Operative Treatment of Mammary Carcinoma.—Since 1904 in every case of excision of the mamma and axillary enucleation Ruth has divided the two pectorals from the clavicle to the lower border of the axillary space, and the outer part of the muscles are then retracted outward and the inner portion retracted inward, thus at once freely exposing the entire axillary space, which is rapidly and easily cleared from above downward under easy sight at every step. The glands and adipose tissues of the axilla are surrounded by gauze as the enucleation proceeds and they are finally removed with the mamma, going wide of all probable deposit.

The inner or thoracic portion of the pectorals is usually removed, as they can serve no useful purpose and may represent a danger, though small. The distal part of the pectorals which were retracted outward are now brought back and carefully sutured to the thoracic wall above and to the latissimus dorsi and teres major below, directly in contact with the axillary vessels and nerves so as entirely to obliterate all dead space and reduce to an infinitesimal amount the cicatricial tissue which will or can form between the elastic pectoral perimysium and the vessels. The advantages claimed by Ruth for this procedure are not alone the complete obliteration of the dead axillary space, but the reduction of the danger of sepsis by prolonged drainage from a non-collapsible space and the preservation of quite or almost perfect power and range of movement. Again, the distal part of the pectorals used in this procedure has never been known to be secondarily involved in carcinoma and so may be used without a particle of hesitation to cover the axillary vessels, obliterate the axillary dead space and eliminate the compression curve of edema, impaired or destroyed function and torturing pain of 31 per cent. of these unfortunate cases.

American Journal of Public Health, New York

December, III, No. 12, pp. 1253-1384

13 Hindrances to Extension of Uniform Methods for Vital Statistics in United States. C. L. Wilbur, Washington, D. C.

14 Possibilities of Reducing Mortality at Higher Age Groups. L. I. Dublin, New York.

15 Sanitary Conditions in Hawaii. G. W. McCoy, Honolulu, T. H.

16 Epidemiologic Survey of All Typhoid Cases Reported to Cincinnati Health Department during 1912. W. H. Peters, Cincinnati, O.

17 Relation of Purity of Water-Supply to Typhoid. J. W. Ellms, Cincinnati, O.

18 Hygienic Condition of Air in Certain Textile Mills with Reference to Influence of Artificial Humidification. H. W. Clark and S. D. Gage, Washington, D. C.

19 Apparent Milk-Borne Outbreak of Paratyphoid. F. G. Curtis, Newton, Mass.

20 New Intercepting Sewer System of New Bedford. W. F. Williams, New Bedford, Mass.

21 Prevention of Typhoid in Rural Districts of Virginia. A. W. Freeman, Richmond, Va.

Archives of Internal Medicine, Chicago

January, XIII, No. 1, pp. 1-176

22 *Circulation in Man: Blood-Flow in Hands in Diseases of the Heart. G. N. Stewart, Cleveland.

23 *Blood-Pressure in Children Showing Orthostatic Albuminuria. M. H. Bass and H. Wessler, New York.

24 *Experiments to Develop More Widely Useful Method of Blood-Transfusion. H. S. Satterlee and R. S. Hooker, New York.

25 *Condition of Blood in Hemophilia, Thrombosis and Purpura. W. H. Howell, Baltimore.

26 Clinical Study of Amylase in Urine. H. R. Geyelin, New York.

27 Clinical Study of Hypercholesterinemia. H. B. Schmidt, Ann Arbor, Mich.

28 *Urea Content of Spinal Fluid with Special Reference to Its Diagnostic and Prognostic Significance. W. B. Soper and S. Granat, New York.

29 Gonococcus Complement-Fixation Test and Analysis of Results from Its Use. B. A. Thomas and R. H. Ivy, Philadelphia.

30 *Comparison of Excretory Power of Skin with that of Kidney Through Study of Human Sweat. H. W. Plaggemeyer and E. K. Marshall, Baltimore.

31 Status Lymphaticus in Adults, Its Clinical Diagnosis and Importance. H. Emerson, New York.

22. Blood-Flow in Hands in Heart Diseases.—The smallest flows observed by Stewart in these cases have been associated with marked irregularity of the heart, indicating involvement of the mechanism of the heart beat. In some cases the irregularity was associated with valvular lesions, but in those with the very poorest hand flows there was no evidence that the valves were involved. Three cases were diagnosed as auricular fibrillation, associated with mitral stenosis (and insufficiency). While the flow in all was below normal, it was decidedly greater in one than in the other two, although the patient was much the oldest of the three. His condition was better than that of the other two patients. The ventricle, in spite of its irregular action, was on the whole beating fairly strongly, and was obviously delivering on the average of its beats a fair amount of blood to the periphery. In a case of mitral stenosis and insufficiency and tricuspid insufficiency, in which the heart showed marked arhythmia, in part associated with the respiration (sinus arhythmia), the hand flow was also much below the normal.

Abnormally small flows were seen in a number of cases diagnosed as myocarditis with regular action of the heart, but feeble heart sounds not accompanied by murmurs. In some cases diagnosed as myocarditis without valvular lesion, in which a serious clinical condition had previously existed, very fair hand flows, not much inferior to the normal, were found when the clinical condition had markedly improved. In several cases of mitral insufficiency with good compensation and no signs of impairment of the myocardium, the hand flow was found to be quite up to the normal amount. In one case of mitral stenosis and insufficiency the flow appeared to be even somewhat greater than normal, as if the big, well-compensated heart were discharging more than the usual quantity of blood.

In a case of mitral insufficiency with broken compensation, venous engorgement and edema, but no dyspnea or cyanosis, the hand flow was quite up to the normal. In another case with the same lesions where there was little edema, no shortness of breath except on exertion, and none at the time of examination, the flow was also little if at all inferior to the normal flow, and the reestablishment of compensation was associated with an actual moderate diminution in the hand flow. In a case of mitral insufficiency with physical signs of pericardial effusion a flow not much inferior to the normal was found after the patient had been some time in the hospital and had regained compensation, and when the heart dulness had decidedly diminished. When the patient, two days after leaving the hospital, broke down again and returned with some dyspnea, cough and swelling of the legs, the hand flow was found distinctly below its previous value. In two cases of mitral insufficiency with badly broken compensation, with venous engorgement, edema, cyanosis and dyspnea, the hand flow was much below the normal. In one of these cases a striking diminution occurred a few days before death.

In a case of apparently pure aortic stenosis with perfect compensation, the hand flow was normal in amount. In a case of aortic stenosis and insufficiency with mitral insufficiency, while there were no signs of broken compensation, the hand flow was somewhat below the normal. In a case of aortic insufficiency and stenosis, with badly broken compensation (great dyspnea, pulmonary edema), the hand flow was greatly diminished.

23. Blood-Pressure in Children.—The result of Bass and Wessler's investigation showed that the blood-pressures of children suffering from orthostatic albuminuria differ but little from those of normal children. In spite of the apparent vasomotor insufficiency which many of these children showed, the blood-pressure reactions, both in the upright and recumbent postures and also after exercise, revealed no characteristic anomaly. Nor were they able in any way to correlate the blood-pressure findings with the findings in regard to heart shape and size or pulse-rate. Children with orthostatic albuminuria who showed marked cardiovascular symptoms could not be differentiated by means of blood pressure tests from the remainder of the group

24 **Blood-Transfusion**—Satterlee and Hooker have devised a method of drawing blood from the donor's blood vessel directly into a paraffin receptacle, carrying the blood to the recipient, and injecting it into the recipient's circulation in precisely the same way in which it was obtained from the donor Excepting the air contact of its upper surface while in the receptacle, the blood does not touch anything but paraffin during its passage The paraffin receptacle consists of a thin film of hard paraffin, lining a firm supporting structure The latter comprises a tubulated glass cylinder, closed at the lower end by an asbestos stopper, through which passes a metal cannula The upper end of the cylinder passes directly into an aspirating tube containing an air filter and terminating in a mouth piece The use of this apparatus is described

25 **Condition of Blood in Hemophilia, etc**—Methods are described by Howell for testing the relative amount of prothrombin and antithrombin in the blood The application of these methods to hemophilia shows that the blood in this condition is deficient in prothrombin The antithrombin may be normal or somewhat greater than normal The characteristic peculiarity of hemophilic blood is its markedly delayed time of coagulation This peculiarity is explained by the diminution in amount of the prothrombin which results in a relatively excess of antithrombin The detection of a hemophilic condition of the blood is facilitated by first oxalating the blood and then recalcifying with an optimum amount of calcium Under these conditions the time of clotting exhibited by normal plasma is very constant (nine to twelve minutes) That of hemophilic blood is greatly delayed

In patients suffering from spontaneous thrombosis of the veins Howell found evidence of a diminution in the antithrombin of the blood, the prothrombin being normal It is suggested that this deficiency in antithrombin operates as a favoring, perhaps as a determining, factor in the production of the thrombus In purpura hemorrhagica and other forms of so called purpura, no evidence was found of any variation from normal in either the antithrombin or the prothrombin

28 **Urea Content of Spinal Fluid**—The ninety seven cases studied by Soper and Granat were arranged in four groups (1) cases in which nephritis could be clinically excluded, (2) cases in which death was caused by uremia, (3) cases in which clinical nephritis did not terminate fatally, and (4) pathological conditions with a diagnosis other than uremia, from which, however, nephritis could not be excluded

Of cases belonging to Group 1, there were 56 Thirty three of these cases showed less than 0.05 per cent urea in the spinal fluid, 15 cases 0.05 to 0.06 per cent, 4 cases showed 0.067 per cent, 0.071 per cent, 0.08 per cent and 0.083 per cent, respectively, with no satisfactory explanation, and 4 cases show, respectively, 0.135, 0.179, 0.115 and 0.107 per cent In none of the last 4 was there sufficient grounds to explain the high urea content

In the second group, which comprises 21 cases in which uremia was present, the constant high percentage of urea in the spinal fluid was very striking In 13 cases it was above 0.2 per cent, in 5 cases between 0.1 per cent and 0.2 per cent, and in 3 cases under 0.1 per cent Two of the last 3 were, however, above normal

In Group 3 there were 8 non fatal cases of nephritis The 2 patients in this group who showed marked increase in the spinal fluid urea left the hospital with little if any improvement.

Of the 12 cases tabulated under Group 4 4 presented interesting problems Unfortunately, necropsies could not be obtained in any of them, and it is therefore impossible to exclude nephritis as a complication or indeed the principal cause of death The authors conclude that a spinal fluid urea content higher than 0.2 per cent indicates a severe uremia and a rapidly fatal termination A content between 0.1 per cent and 0.2 per cent means rapidly fatal termination in the majority of cases of nephritis A content between 0.05 per cent and 0.1 per cent does not permit of any definite conclusion either as regards diagnosis or prognosis Such a content is, however, suggestive of severe urea retention and must be taken into consideration in the diagnosis of the condition

30 **Excretory Power of Skin and Kidney**—This study by Plaggemeyer and Marshall has demonstrated that the glands of the skin concentrate urea and ammonia, but that the diastatic activity is less than that in either blood or urine and that uric acid is present in less concentration than in the blood The relative concentrating power of the skin and kidney for urea and ammonia are very different, though in both cases the percentage values are higher than those for blood These facts, in conjunction with the fact that the kidneys show a decided selective action for many dyestuffs, while on the other hand mercury seems to be more readily excreted through the skin, lead Plaggemeyer and Marshall to conclude that, under normal conditions, the skin and kidneys show a distinct selective action The bearing of this on sweat baths as a therapeutic measure in cases of uremia and nephritis is evident The various substances which are producing toxemia in a given case may be among those which the kidney can concentrate, while in sweat they are found in less concentrated form than in the blood stream In the former case, sweating would not be indicated Hence, certain reservations should be made on the efficacy of such procedures as a routine method of treatment

Archives of Pediatrics, New York

December, XXX, No 12, pp 881 952

32 Infant Mortality, Ancient and Modern L E Holt New York
33 *Heat and Infant Mortality J W Schereschewsky, Washington D C
34 Medical Supervision of Child between Infancy and School Age H L R Shaw, Albany, N Y

33 **Heat and Infant Mortality.**—It is Schereschewsky's belief that the action of heat as a direct cause in the summer mortality of infants has been greatly underestimated in the last twenty five years In the future much more weight should be given to its influence The lethal action of heat is a function not so much of the maximum and mean temperatures of the external air as of the indoor temperatures, which, in the late summer, may continue to be high in spite of remissions in temperature of the external air The action of dirty and stale milk in causing the death of infants has been given a significance which has overshadowed other factors of equal or greater importance

There is evidence to show that a certain proportion of infant deaths are due to specific infections, in the dissemination of which contact infection and flies doubtless play a part Schereschewsky maintains that future activities for the prevention of infant mortality must concentrate themselves to a greater extent on the question of housing, especially the conditions productive of high indoor temperatures, such as overcrowding, narrow streets and the absence of thorough ventilation Poor housing conditions can be neutralized in part by the proper care of babies in the summer The general public should be educated as to the importance of high indoor temperatures in causing the death of infants, and especially as to measures which prevent babies from suffering from the heat Breast feeding is still regarded as a most, if not the most, important preventive of the summer death of infants

Boston Medical and Surgical Journal

January 22, CLXX, No 4, pp 113 148

35 *Mortality of Hereditary Syphilis A Post Boston
36 Case of Myatonia Congenita (Oppenheim) J W Courtney and H B Eaton Boston
37 H Lilienthal, New York
38 * in Lymphatic Leukemia and Hodgkin's Disease Boston
39 Condition of Vasomotor Center in Pneumonia W T Porter and L H Newburgh Boston
40 Study of Cancer S W Little, Rochester, N Y

35 **Mortality of Hereditary Syphilis**—The mortality in 30 syphilitic families has been tabulated by Post In these 30 families there have been 168 pregnancies, of these pregnancies there have been 53 stillbirths and miscarriages, and 44 early deaths—a total of 97 lost, or 57 per cent—71 remain alive Fifty seven per cent of the pregrancies are dead Thirty

eight per cent of the children born alive are dead. Out of the 168 pregnancies, of the 115 children brought living to the world, there remain alive 71; of these 71, 32 have been patients, leaving only 39 presumably healthy. The chief attributed causes in 86 fatal cases in syphilitic families, according to the mothers' accounts, were cholera infantum, 25; marasmus, 27.

38. **Corynebacterium Hodgkini in Lymphatic Leukemia and Hodgkin's Disease.**—A diphtheroid bacillus, similar in its morphological and cultural characteristics to the organism described by Negri and Mieremet, Bunting and Yates, and Billings and Rosenow has been cultivated by Steele from the lymph-nodes of a case of lymphatic leukemia, and one of Hodgkin's disease. Its relationship to these diseases has not been definitely determined, although further studies on this subject are in progress.

California State Journal of Medicine, San Francisco

January, XII, No. 1, pp. 1-44

41 Hydrophobia in San Francisco. R. G. Broderick, San Francisco.
42 Points in Tuberculosis of Interest to Health Officers. R. A. Peers, Colfax.
43 Relation of Sanitarian to Vocational Guidance. W. Simpson, San Jose.
44 Modifications in Administrative Measures Necessitated by Carrier Problem. F. W. Browning, Hayward.
45 Suggested Improvements in Methods of Controlling Common Contagious Diseases. J. Temple, Santa Rosa.
46 Recent Legislation on Communicable Diseases in United States. J. N. Force, San Francisco.
47 Administrative Measures for Control of Scarlet Fever. J. J. Benton, Berkeley.
48 Rating Efficiency of Hospitals and Institutions for Tuberculous. B. F. Howard, Sacramento.
49 Venereal Disease Problem. C. R. Blake, Richmond, Va.
50 Pellagra. R. W. Harbaugh, San Francisco.
51 Formation and Orthography and Pronunciation of Medical Terms. W. H. Mills, San Francisco.
52 Artificial Synostosis of Tuberculous Spine. J. T. Watkins, San Francisco.
53 Recent Advances in Treatment of Dacryostenosis. L. D. Green, San Francisco.
54 Fifth Annual Conference of State, County and Municipal Health Officials. W. A. Sawyer, Berkeley.

Cleveland Medical Journal

January, XIII, No. 1, pp. 1-80

55 *Improved Method of Removing Diverticulum of Urinary Bladder. W. E. Lower, Cleveland.
56 Wayside Notes of Visits to German Clinics in June, 1912. G. W. Crile, Cleveland.
57 *Roentgen Diagnosis of Lesions in Region of Mediastinum. G. F. Thomas, Cleveland.
58 Syphilis of Spine. H. G. Sloan, Cleveland.
59 Rôle Played by Obstetrician in Prevention of Infant Mortality. A. F. Furrer, Cleveland.

55. **Removing Diverticulum of Urinary Bladder.**—In the case cited by Lower, the diverticulum opening was packed with strips of gauze, so that it was converted into a semi-solid tumor. With the fingers within the bladder its upper portion was pulled forward, while by careful dissection the bladder was separated from the peritoneum. With the index finger of the left hand in the diverticulum opening, the bladder was pulled well forward and slightly to the left so that the neck of the diverticulum was brought into view. This was then divided entirely in order to separate the diverticulum from the bladder. The bladder was then pushed laterally underneath and was held away from the diverticulum by means of flexible retractors. As the right ureter was situated at the opening of the diverticulum, it was divided by the circular incision. It was necessary, therefore, to place a catgut suture around the divided ureter to prevent the escape of urine during the remainder of the operation.

The diverticulum which had been converted into a semi-solid tumor by means of the inserted gauze was carefully dissected away from the surrounding structures and removed. The divided ureter was then transplanted into the bladder through the opening made by resecting the diverticulum. A small cigaret drain and a piece of iodoform gauze were inserted outside the bladder into the cavity from which the diverticulum was removed. The fascia was united with chromic catgut and a catheter was placed within the urethra. The patient has made an uninterrupted recovery without any complications whatever.

57. Abstracted in The Journal, Nov. 8, 1913, p. 1743.

Colorado Medicine, Denver

January, XI, No. 1, pp. 1-80

60 Blood Platelets—Some Studies in Connection with Altitude and Tuberculosis. G B. Webb, G. B. Gilbert and L. Havens.
61 *Plea for Early Operation for Cancer of Lower Lip. E. H. Beckman, Minnesota.
62 Case of Neuritis from Cervical Rib; Operation; Recovery. J. N. Hall, Denver.
63 Radium Therapy. J. Q. Allen, Montrose.

61. Abstracted in The Journal, Oct. 25, 1913, p. 1574.

Journal of Nervous and Mental Disease, Lancaster, Pa.

January, XLI, No. 1, pp. 1-64

64 *Two Cases of Removal of Extradural Tumor of Spinal Cord. P. C. Knapp, Boston.
65 Neosalvarsan in Treatment of Parasyphilis of Nervous System. E. D. Fisher, New York.
66 *Anterior Crural Neuritis. C. M. Byrnes, Baltimore.

64. **Extra-Dural Tumor of Spinal Cord.**—Thirty-six cases in which operations have been performed for the relief of tumors of the spinal cord by the advice of the neurologists have been collected by Knapp. In only 11, however, was the growth entirely removed. Eight of these showed more or less marked improvement and only 2 died as a result of the operation,—a mortality of only 18 per cent. In 7 cases a malignant growth was found which could be removed only in part. Even in such hopeless cases 3 were somewhat benefited. In the whole 36 cases 20 were helped by the operation and 12 died, either as a direct result of the operation or from complications following it—an operative mortality of 36 per cent. In view of the hopeless outlook for these cases without operation, Knapp thinks that the experience of neurologists affords further evidence in justification of such operations, even in cases in which the growth cannot be wholly removed.

66. **Anterior Crural Neuritis.**—From a review of the literature Byrnes finds there are, including his personal observations, 136 instances in which the femoral nerve has been the seat of an inflammatory process originating from some internal or medical disorder. The disease has been observed 84 times as a post-partum complication, once as a congenital affection, 8 times as a primary condition, and 3 instances have been referred to which Byrnes has been unable to verify. The remaining 40 cases are distributed among 15 different disorders. In a few instances the inflammation has extended to adjacent nerves, but in each case the most pronounced symptoms have been confined to the femoral distribution.

Of 49 instances of femoral neuritis which have been studied with sufficient care to be instructive, in 33 cases both sides were affected, and in 5 the affected side was not mentioned. In the unilateral cases, the right nerve was involved 17 times; the left 14 times, and in 2 cases the affected side was not stated. Of the bilateral cases, the initial symptoms appeared first on the right side in 5 instances; on the left in 2 cases, and not indicated in 4. If the bilateral cases be regarded as transitory unilateral affections according to the side first affected, and are added to the distinctly unilateral conditions, there are, in a total of 38 cases, 22 instances in which the right side was affected and 16 in which the initial symptoms were on the left side.

In 18 cases the condition was "primary" or "idiopathic." In these 18 cases, the disease was unilateral 14 times; bilateral once, and not stated in 3 instances. Of the 14 unilateral cases, the right side was affected 5 times, the left side 7 times, and unmentioned in 2 cases. In the one bilateral condition the right side was first involved, and if this be added to the 5 distinctly unilateral cases, the two sides are about equally affected. The disease is chiefly met with in middle-aged and elderly people. Of the 33 cases in which sex was indicated, 25 were in males and 8 in females.

The onset of the disease may be acute or subacute. The commonest and earliest symptom is pain in the distribution of the crural nerve or one of its neighboring branches. In the course of a week, or even a month, if the onset be subacute, the pain becomes more persistent, of wider distribution, greater intensity, and of a continuous paroxysmal nature with nocturnal exacerbations. The character, location and extent of the pain are quite distinctive. Except in the mildest cases, there is always some motor disturbance. Weakness and "giving way" of the knee are sommon complaints, and there is some difficulty in raising the leg from the bed when the knee is fixed. There is usually moderate wasting of the muscles on the front of the thigh. The superficial reflexes, epigastric and abdominal, may or may not be altered. Slight electrical changes are usually to be found in the muscles of the affected side. Byrnes believes that there are many instances which have either not been recognized or have been thought to merit no further consideration.

Journal-Lancet, Minneapolis

January 15, XXXIV, No. 2, pp. 31-60

67 The Kinetic System. G. W. Crile, Cleveland.
68 Typhoid Feeding, with Special Reference to High-Calory Diet. W. H. Bodenstab, Bismarck, N. D.
69 Vaccines in Surgical Practice. R. G. Stevens, Sioux Falls, S. D.
70 Vaccines and Modified Vaccines, with Report of Case. A. H. Stoll, Brookings, S. D.

Laryngoscope, St. Louis

December, XXIII, No. 12, pp. 1121-1184

71 Development and Extension of Limits of Laryngology. G. A. Leland, Boston.
72 Indications for Correction of Deviations of Nasal Septum by Gleason Operation. E. B. Gleason, Philadelphia.
73 Autogenous Vaccine in Treatment of Hay-Fever. P. M. Farrington, Memphis, Tenn.
74 Ethmoidal Abscess Caused by Bacillus Fusiformis of Plaut-Vincent. F. H. Brandt, Boise, Ida.
75 Large Cyst of Epiglottis. H. Moulton, Fort Smith, Ark.
76 Intranasal Operations and Their Relation to Hearing. S. W. Thurber, New York.
77 Gradenigo's Syndrome: *One Case-Report and Analysis of Published Cases.* H. B. Graham, San Francisco.
78 Face Protector. F. E. Cutler, Cleveland.
79 Needle for Intranasal Suturing. C. N. Spratt, Minneapolis.
80 Sharp Tonsil Dissector with Double Pillar Retractor: Modified Jansen-Middleton Nasal Septum Punch. S. Goldstein, New York.

Medical Record, New York

January 24, LXXXV, No. 4, pp. 139-184

81 Occupations of Afebrile Tuberculous Patients. S. A. Knopf, New York.
82 Hygiene of Farmhouse and Farm. J. A. Nydegger, Baltimore.
83 Tuberculosis of Testicle: Report of Case of Antenatal Transmission. A. L. Goodman, New York.
84 Significance of Irregular Uterine Bleeding. L. Broun, New York.
85 Venous Circulation. S. M. Robinson, Orlando, Fla.
86 *Case of Chronic Intestinal Toxemia of Severe Type. E. E. Cornwall, Brooklyn.
87 Typhoid Spine; Report of Case Complicated by Thrombophlebitis of Left Femoral Vein. C. B. Conklin, Washington, D. C.
88 Bacillus Lactis Bulgaricus in Infantile Gastro-Enteritis. L. H. Schwartz, New York.

86. **Chronic Intestinal Toxemia.**—*Cornwall's case presents a number of interesting and suggestive points, among which are the following: The patient gave a marked family history of arthritis deformans, and a personal history of a sedentary occupation, of constipation, and of periodical headaches for many years previous to the onset of continuous symptoms. He obtained relief from his continuous and characteristic symptoms by a diet in which the protein derived from animal tissues was scarcely 5 per cent. of the total protein, and in which nearly all of the protein was derived from bread, cereals, milk and cheese; in which the protein ration was kept at a daily average of about 67 gm., and the fuel ration at a daily average of 2,240 calories, from which cane sugar was particularly excluded, and in which was included a considerable amount of the cellulose of green vegetables. He increased both his protein and fuel rations in the months of December, January and February, and diminished them in the other months. He maintained good general health on this diet and gained in weight and had more endurance than when eating his former conventional diet, but was less energetic and slower in his movements than formerly. Since taking this diet the keenness of his sense of taste has increased. Although his continuous symptoms disappeared after taking this diet, and his general condition greatly improved, he continued to have periodic attacks with symptoms suggesting cyclic accumulations of intestinal toxins in the blood or cyclic disturbances of the liver. Symptoms resembling those of these cyclic disturbances could be brought on by eating animal flesh, by unusual physical exertion and by excitement.*

His stools became light yellow in color at the time the cyclic disturbances during the first two years of period of observation, but were nearly normal in color af that period. They were noticeably offensive in odor only the time of the cyclic disturbances, after a laxative. Th were smaller in total quantity while taking the non-putef tive, anticonstipation diet than formerly when taking the c ventional diet. Indicanuria was not a noticeable sympt either at the time of his cyclic disturbances or in the interv between them. A small dose of a saline laxative taken night was usually effective in promptly removing the sym toms of his cyclic disturbances. A larger dose of the sa saline when taken in the morning was less effective. Veg table cathartics were generally less effective than salin though occasionally when the salines failed absolutely abate the toxemic symptoms, which happened periodically, large dose of a vegetable cathartic proved effective for th purpose. Raw cabbage, eaten daily, was of great assistan in overcoming his habitual constipation. His blood-pressu was raised by the cyclic disturbances.

After two years of a non-putrefactive anticonstipation di *the periods between his cyclic disturbances lengthened.*

Missouri State Medical Association Journal, St. Louis

January, X, No. 7, pp. 229-266

89 Tuberculin Treatment. W. W. Duke, Kansas City.
90 Blood-Pressure. M. P. Overholser, Harrisonville.
91 Operative Procedure in Treatment of Uterine Displacemen J. M. Dean, St. Louis.
92 Luke, the Greek Physician. G. Homan, St. Louis.
93 Brain Syphilis: Case Report with Post-Mortem Finding G. H. Hoxie, Kansas City.
94 Vincent's Angina with Case Report. W. K. Statler, Oakridg
95 Some Methods of Promoting Interest in County Medic Society. G. W. Goins, Tooele, Utah.
96 Treatment of Internal Hemorrhoids. R. H. Barnes, St. Loui
97 History of Medical Organization in Cass County, Methods *Conducting Its Society, and What It Has Accomplishe* H. S. Crawford, Harrisonville.

New York Medical Journal

January 24, XCIX, No. 4, pp. 153-204

98 Chronic Intestinal Stasis Surgically Considered. W. S. Bai bridge, New York.
99 Chronic Intestinal Stasis Roentgenographically Considere *A. J. Quimby, New York.*
100 Chronic Intestinal Stasis. W. V. Hayes, New York.
101 Acute Pancreatitis. J. F. Erdmann, New York.
102 Insanity in Latent Bright's Disease. G. W. McCaskey, Fo Wayne, Ind.
103 Abdomen Strengthening: Valuable Treatment. S. Lewi Lakehurst, N. J.
104 Treatment of Fractures Near Elbow. A. O. Wilensky, Ne York.
105 Gas-Oxygen Anesthesia. A. H. Miller, Providence, R. I.
106 Treatment of Disease in Aged. A. Orenstein, New York.

New York State Journal of Medicine, New York

January, XIV, No. 1, pp. 1-56

107 Principles Underlying Successful Treatment of Sterility Women. E. Reynolds, Boston.
108 Cardiospasm, What Is It? What It Seems To Be. A. Bassle New York.
109 *Benzol in Treatment of Leukemia, with Results in Case Myeloid Form. J. Meyers and T. Jenkins, Albany.
110 *Importance of Treatment of Weak Feet in Childhood. B. Whitbeck, New York.
111 Treatment of Toxemias of Pregnancy with Placental Serum A. J. Rongy, New York.
112 Gall-Bladder and Its Passages: Plea for Early Operatio L. F. O'Neill, Auburn.
113 Two Cases of Abscess of Liver Following Gall-Bladder Dis ease. F. W. Sears, Syracuse.
114 Nasal Obstruction as Predisposing Factor in Etiology Pulmonary Tuberculosis. J. E. McCambridge, Poughkeeps
115 **Examination of Exposed as Factor in Prevention and Relie* of Tuberculosis. J. H. Pryor, Buffalo.
116 *Infant-Feeding from New Viewpoint. G. R. Pisek, New Yor
117 Case of Anorexia Nervosa in Infant. N. G. Orchard, Rochest
118 Sub-Conjunctival Injections of Cyanid of Mercury in *Ophthal mology.* C. B. Meding, New York.
119 Squint and Its Correction. J. J. O'Brien, Schenectady.
120 Indications for Operation on Nasal Septum. J. F. McCaw Watertown.
121 *Selective Drug Action on Nervous System as Aid to Diagnosis C. J. Roberts, Buffalo.

109 and 115. Abstracted in The Journal, May 17, 1913 p. 1575.

110. Abstracted in The Journal, May 10, p. 1483.

116. **Infant-Feeding.**—Scientific infant-feeding, Pisek states, consists of doing what is right at the time, for the particular

infant. *It is impossible to state in a book* what shall be done under all conditions, for the conditions are seldom exactly alike in different cases. For example, at one time it may be highly scientific to pasteurize food, and at another time just as scientific to add certain types of bacteria to the food. Here there is no contradiction. Each procedure has its place and in its place is scientific. Out of its place it is unscientific.

121. Abstracted in The Journal, May 10, 1913, p. 1484.

Ohio State Medical Journal, Columbus

January, X, No. 1, pp. 1-64

122 Serodiagnosis of Pregnancy. N. D. Goodhue, Dayton.
123 Practical Value of Roentgenoscopy of Stomach. S. Lange, Cincinnati.
124 Endoscopy as Applied in Laryngology. T. Hubbard, Toledo.
125 *Treatment of Acute Endocarditis. J. Phillips, Cleveland.

125. **Treatment of Acute Endocarditis.**—Phillips states emphatically that in the treatment of acute endocarditis the most important thing is rest, both mental and physical. This should often extend over a period of four or six months or even longer. The rest in bed should be absolute, no exertion being done by the patient that can be done for him by others. To counteract the muscular flabbiness that is necessarily an accompaniment of such a long stay in bed, as soon as the temperature is normal, massage should be given daily for a period of thirty minutes, starting first with general rubbing and kneading the muscles and later giving passive and resistive movements. The diet should at first consist largely of milk and cereals, with moderate amount of fluid and alkaline drinks. During convalescence a full diet should be prescribed, especially should milk, eggs and fresh vegetables be liberally given. The bowels should be kept freely open.

The application of cold in the form of an ice-bag is the most useful form of *local treatment. It should never* be applied directly to the skin, but the latter should be covered with a thin piece of flannel and the ice-bag applied over this.

In rheumatic endocarditis, salicylates should be given in doses of 20 grains combined with 30 grains of sodium bicarbonate every hour until the patient is toxic. As a rule, this takes from 180 to 200 grains. After the toxic symptoms, the most common of which is tinnitus aurium, appear, the salicylates are given in doses of from 15 to 20 grains every three or four hours so as to keep the patient on the verge of toxicity until the febrile period has passed. When the sodium bicarbonate is thus combined with salicylate, nausea and vomiting are rarely seen. Salicylates should be continued in moderate doses two days out of every week over an indefinite period of time.

In cases of endocarditis due to causes other than rheumatism, the same general measures of treatment should be followed with the exception of the administration of salicylates, and the disease which is the underlying cause should receive *appropriate treatment.*

If there are signs of failure of the cardiac muscle, among the drugs used to combat this cardiac failure are strychnin, ammonia, camphor or strophanthin, brandy and ether. Where rapid stimulation is needed camphor or strophanthin give the best results. If dyspnea and cyanosis are very troublesome inhalations of oxygen are often of considerable service, especially in children. If the patient suffers a great deal from precordial pain small doses of morphin should be given. Hyperpyrexia is treated by sponge baths as in other conditions. Anemia calls for the administration of iron, occasionally combined with arsenic.

The treatment of malignant endocarditis is that of septicemia—in most cases hopeless. Blood cultures should be taken early and if possible a vaccine prepared and used.

Pennsylvania Medical Journal, Athens

January, XVII, No. 4, pp. 253-338

126 *Treatment of Fractures. J. B. Lowman, Johnstown.
127 Practical Value of Vaccine Treatment and Various Forms of Serum Treatment. A. Stengel, Philadelphia.
128 Scientific Basis for Vaccine Therapy. R. M. Pearce, Philadelphia.
129 Importance of Precise Determination of Ocular Filtration. J. T. Carpenter, Philadelphia.
130 Newer Operations for Acute and Chronic Glaucoma. L. W. Fox, Philadelphia.
131 Demonstration of Defects of Speech. G. Hudson-Makuen, Philadelphia.
132 Extraction of Immature Cataract by Homer C. Smith Method. H. F. Hansell, Philadelphia.
133 Endoscopic Treatment of Bronchiectasis. . E. E. Musson, Philadelphia.
134 Clinical Study of Ocular Tonometers. W. Reber, Philadelphia.
135 Practical Differential Tests of Hearing. B. A. Randall, Philadelphia.
136 Clinical Demonstration of Eye Cases. S. D. Risley, Philadelphia.
137 Removal of Pair of Tonsils of Extraordinary Size. B. C. Gile, Philadelphia.
138 *Carcinoma of Breast. J. B. Deaver, Philadelphia.
139 *Diagnostic Errors in Differentiating Lesions of Cervix. E. A. Weiss, Pittsburgh.
140 *Modern Ideals in Care of Insane. W. K. Walker, Pittsburgh.

126. Abstracted in The Journal, Oct. 18, 1913, p. 1483.

138 and 139. Abstracted in The Journal, Oct. 25, 1913, pp. 1564 and 1565.

140. Abstracted in The Journal, Oct. 11, 1913, p. 1398.

Southern Medical Journal, Nashville

January, VII, No. 1, pp. 1-85

141 *Diagnosis and Treatment of Commoner Thyreopathies. L. F. Barker, Baltimore.
142 *Cancer Problem from Standpoint of Laity, General Practitioner and Expert Surgeon. J. C. Bloodgood, Baltimore.
143 *South's Greatest Public Health Need. C. L. Wilbur, Washington, D. C.
144 *Vital Statistics. O. Dowling, New Orleans.
145 Management of Lacerated and Contused Wounds. J. S. McEwan, Orlando, Fla.
146 *The South in Medicine. F. A. Jones, Memphis, Tenn.

141. **Diagnosis and Treatment of Commoner Thyreopathies.**—This excellent article is so comprehensive that the limited space of this department prohibits a proper abstract.

142. **Cancer Problem.**—Several articles on this subject by Dr. Bloodgood have appeared in The Journal as originals and as abstracts.

143. **South's Greatest Public Health Need.**—A fundamental means "by which government may be put at the service of humanity in safeguarding the health of the nation, the health of its men and its women and its children, as well as their rights in the struggle for existence," is the recording of the vital statistics, the true "bookkeeping of humanity." This is recognized by every practical sanitary and social worker. It is to our shame, says Wilbur, that we have neglected this duty so long; that legislatures and state boards of health have wasted the people's time and money, and frittered away the people's lives through ignorance of the important facts that vital statistics—accurate vital statistics—alone can reveal. When the children's bureau, established for the purpose of protecting the young and charged with the duty of studying infant mortality, is brought to a halt by the absence of the necessary data, it is time to consider why our country should stand in the rear, and not in the van, of national progress. Convinced that the most effective work on behalf of public health that can be done in this country to-day lies in the prevention of infant mortality, the children's bureau is brought to the necessity of appealing for such legislation and such local records as will indicate where and when the babies are born and where and when they die as a preliminary to an intelligent study of the subject.

144. **Vital Statistics.**—Dowling recommends transmission to the legislature of each Southern state, where needed, a petition for the consideration of: (1) The adoption of the model vital statistics law in full. (2) Appropriation of adequate funds to establish an effective system of collection and compilataion of vital statistics and analysis and application of data received. (3) Designation of a date for thirty minutes' discussion before the legislature of reliable vital statistics, the basis of commercial, sanitary and social progress in the South.

146. **The South in Medicine.**—Jones says:

> The chair has preached and taught elevation of standards in our medical schools and in our Association for many years. He will continue to do so. But let us not have our standard so high that the essence and flavor of real good work are squeezed out. Let us not require anything of our prospective students that our faculties cannot conform to themselves. We *read much about the* requirements on the part of the student for entrance, but nothing about

the requirements of the professor who teaches. In all this shakeup of standards begin at the top. Let us standardize our faculties first. We need more standardizing of faculties than we need standardizing of entrance on part of the student. The sauce of the student should be good for the professor. The question, what is the professor's ability to teach? stands in direct relation to the question: What is the student's ability to enter? In raising our standards to any particular point, we say a B.S. or B.A. degree for entrance, let those members of our faculties who have not these degrees promptly resign. Let all those schools throughout the country that have such a lofty standard ask their professors who are not qualified to step down and out.

One of the crying evils of the age is the cramming and crowding too many hours of work in our curricula. We are raising standards, we are raising tuition, which is right. But may I ask how can a student do himself justice as the schedule of lectures now stand?

The Southern Medical Association, in its influence for good, should have the hearty cooperation of every Southern physician. It should be for the physicians, by the physicians and of the physicians. Every Southern medical college worthy of living, though its lot may be hard for a few years, should be dealt with justly.

Texas State Journal of Medicine, Fort Worth

January, IX, No. 9, pp. 267-300

147 Submucous Resection of Septum. C. A. Freligh, New York.
148 Acute Mastoiditis; Report of Cases. W. D. Jones, Dallas.
149 Radical Mastoid Cases: Some Causes of Failure in This Class of Work. H. T. Aynesworth, Waco.
150 Clinical Pathologist. J. J. Terrill, Galveston.
151 Meningitis Carriers. J. H. Black, Dallas.
152 Meningitis and Public Health. A. D. Patillo, Petrolia.
153 Recent Advances in Orthopedic Surgery. E. W. Ryerson, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

December 30, VII, No. 4, pp. 479-632

1 Studies in Blackwater Fever. J. W. W. Stephens.
2 Growth and Sporulation of Benign and Malignant Tertian Malarial Parasites in Culture Tube and in Human Host. J. G. Thomson and D. Thomson.
3 Trichonocardiases. A. J. Chalmers and W. R. O'Farrell.
4 Epidemic Trichonocardiasis. A. J. Chalmers and A. D. Stirling.
5 Hereditary Infection, with Special Reference to Its Occurrence in Hyalomma Aegyptium Infected with Crithidia Hyalommae. W. R. O'Farrell.
6 Trypanosoma Vivax in Rabbits. B. Blacklock and W. Yorke.
7 Pathogenicity of Nosema Apis to Insects Other than Hive Bees. H. B. Fantham and A. Porter.
8 Certain Mosquitoes of Genera Banksinella, Theobald, and Taeniorhynchus, Arribalzaga. H. F. Carter.
9 New Culicidae from Sudan. F. V. Theobald.
10 Probable Identity of Trypanosoma Congolense (Broden) and T. Nanum (Laveran). B. Blacklock and W. Yorke.
11 Herpetomonas Stratiomyiae, n. sp., a Flagellate Parasite of Flies, Stratiomyia Chameleon and S. Potamida, with Remarks on Biology of Hosts. H. B. Fantham and A. Porter.
12 Culture of Babesia (Pioplasma) Canis in Vitro. J. G. Thomson and H. B. Fantham.

British Medical Journal, London

January 10, II, No. 2767, pp. 69-124

13 *Pneumonia: Its Nature and Treatment. J. Barr.
14 Syphilis as Affecting Health of Community. C. H. Browning.
15 Treatment of Hydatid of Liver. C. MacLaurin.
16 Two Cases of Tuberculous Peritonitis and Salpingitis with Menstrual Complications. W. G. Spencer.
17 *Administration of Guaiacol in Pulmonary Tuberculosis. G. M. Mayberry.
18 Epidemic Cervical Adenitis. R. D. Rudolf.

13. **Pneumonia.**—Speaking of the diet in pneumonia Barr says that one of the greatest difficulties in private practice is to control the diet; the public has been educated in the belief that great quantities of nourishment and stimulants are necessary, and too frequently the regulation of the diet is left to the nurses and relatives, consequently one frequently finds the abdomen enormously distended with flatus which prevents the free play of the diaphragm. There is usually a paretic condition of the intestinal tract, and any food decomposition is apt to give rise to acute dilatation of the stomach and bowels; when this occurs pituitary extract is the remedy *par excellence.* There is scarcely any anabolic change going on during the febrile stage, so there is no use in troubling the patient with large quantities of nitrogenous food, which are not required and are only apt to form poisonous ptomains. It is a great mistake to worry the patient with much food during the first three or four days of illness, and it should be very gradually increased as the patient seems capable of digesting it. It is not what is put into the patient's stomach, but what he assimilates, that proves of any value.

Barr has found that a good combination consists of an infusion of half a pound of raisins in a quart of hot water with three or four ounces of syrup of glucose, two drams of sodium chlorid and half a dram of the glycerophosphate or lactate of calcium. The patient can drink this *ad libitum.* Milk is an excellent item in the diet, but it is not always easily digested, and consequently it should be well diluted; it should be boiled to get rid of the *bacillus coli* and other organisms. The following is cited to serve an adult in the acute stage for twenty-four hours: About 2 pints of milk, 2 or 3 pints of barley water, whey, or plain water, 6 or 8 ounces of syrup of glucose, 4 or 5 drams of table salt, and 1 dram of the glycerophosphate of calcium. If the syrup of glucose be too sweet or mawkish, a quarter of a pound of sugar of milk can be used. Later on the patient can have peptonized bread and milk or some infants' food, broths, raw eggs, jellies, cocoa or coffee, and a few biscuits. He can have cold water when he likes.

17. **Guaiacol in Pulmonary Tuberculosis.**—Guaiacol is administered by Mayberry in the following mixture, and as a rule he finds it practicable to increase the dose of guaiacol by 2 minims each week until a maximum of 12 to 15 minims is given three times a day: Guaiacol ʒj, spirit. vini rect.℥j, syrupi limonis ℥j, spirit. chloroformi ʒij, aqua ad ℥vj. The dose of this is ℥ss thrice a day.

Clinical Journal, London

December 10, XLII, No. 36, pp. 561-576

19 Flexion of Right Hip-Joint. L. McGavin.
20 Gonorrhea and Its Complications in Pregnant Women. D. Watson.
21 *Postoperative Embolism of Femoral Artery: Two Cases, One Bilateral, the Other Unilateral; Arteriotomy Attempted in Latter Case. C. G. Watson.

December 17, No. 37, pp. 577-592

22 Errors of Diagnosis in Ear Diseases. M. Yearsley.
23 Certain Considerations which Influence Question of Operation in Ophthalmic Surgery. E. Thomson.

December 24, No. 38, pp. 593-608

24 Common Errors in Diagnosis of Infectious Diseases. E. W. Goodall.
25 *Pessaries Versus Operations in Treatment of Uterine Displacements. A. E. Giles.
26 Treatment of Phthisis and Hemoptysis by Induction of Artificial Pneumothorax. C. Lillingston.
27 Technic of Operations for Intestinal Obstruction in Large Intestine. H. B. Angus.

December 31, No. 39, pp. 609-624

28 Treatment of Exophthalmic Goiter. F. Langmead.
29 *Renal Infantilism. R. Miller and L. Parsons.
30 Some Cerebral Manifestations of Influenza. F. E. Tylecote.

January 7, XLIII, No. 1, pp. 1-16

31 Ophthalmology in General Practice. M. L. Hepburn.
32 Mistakes in Diagnosis of Perforated Gastric Ulcer. J. Howell.
33 Malingering and National Health Insurance. T. M. Martin.

21. **Postoperative Embolism of Femoral Artery.**—Two weeks after a laryngectomy for cancer Watson's patient was seized by an ascending pallor, loss of sensation and power in the left leg. When seen by Watson six hours after the onset of symptoms no pulse could be felt in the femoral artery below the bifurcation, but iliac pulsation could be felt. The foot and leg up to the knee were cold, pallid and insensitive. Immediate operation was decided on, and Watson exposed the common femoral artery. Pulsation ceased at the bifurcation and Watson decided to open the artery with a view to embolectomy. While raising the artery from the femoral sheath for the purpose of applying a Crile's clamp pulsation suddenly returned in the superficial femoral artery. Watson then exposed the superficial femoral at the lower end of Hunter's canal, as he was unable to satisfy himself that pulsation could be felt there. Watson found that the vessel pulsated as far as the middle of the popliteal space, and closed the wounds. Next day some warmth had returned to the foot, but no pulsation could be felt in the tibial arteries. Gangrene of the foot eventually became established, and a week later Watson amputated the leg through the condyles of the femur.

The artery was completely blocked at the bifurcation of the popliteal by thrombus, which extended down into both tibials. Watson was unable to identify a definite embolus. The patient made a good recovery from the amputation, and is now, nearly two years after the operation of laryngectomy for carcinoma, free from recurrence, and in good health. There is no evidence of vascular disease.

25. **Treatment of Uterine Displacements.**—In the group of cases in which there is a clear indication for pessary treatment Giles includes: retroversion of the uterus following confinement; retroversion occurring in young and nulliparous women, when the symptoms of displacement are of recent origin, and the uterus fails to keep up after simple reposition; retroversion of the gravid uterus in the early months; prolapse of the uterus, with or without cystocele, when the perineum is sufficiently good to hold a ring well up; cystocele with prolapse, with the same proviso as above, that the perineum is sound; all kinds of mobile displacement when the condition of the patient is such as to contra-indicate operation.

Cases in which there is a clear indication for operation are: all cases of backward displacement in which the uterus is fixed by adhesions so that its position cannot be rectified; backward displacement complicated by ovarian tumors or inflammatory disease of the appendages; backward displacement complicated by one or more fibroids admitting of myomectomy; mobile retroversion associated with torn perineum that requires repair; retroversion associated with an atrophic condition of the upper part of the vagina in such a fashion as to render pessaries ineffectual; prolapse of the uterus and vaginal walls, when the perineum is so torn or stretched that no ordinary pessary will keep in place; total procidentia, with the vagina inverted and the uterus lying outside the vulva; particularly when associated with ulceration of the vagina due to friction of the clothes; all cases of displacement when the patient is going to reside abroad in districts where medical assistance is not readily available; all cases of displacement in which a pessary rapidly perishes or becomes rough, or leads to profuse and offensive discharges, or causes inflammation or ulceration of the vaginal walls; cases of displacement in neurotic single women, on whom the concentration of attention on the pelvic organs incidental to the wearing of a pessary, frequent douchings and periodical examinations has a harmful mental and moral effect.

29. **Renal Infantilism.**—Miller and Parsons maintain that a class of symptomatic infantilism secondary to a perversion of renal functions may be recognized ("renal infantilism"). It may occur with organic renal disease; in the cases hitherto reported this type has been due to non-syphilitic chronic interstitial nephritis, whether cardiovascular changes be present or absent. Here the infantilism is likely to be of a severe grade, and death tends to occur during childhood or early adolescence from uremia or pneumonia. It may also occur apart from organic renal disease (diabetes insipidus). This type may be due to inherited syphilis, organic nervous lesions, and the other recognized causes of diabetes insipidus. The infantilism is not of a severe grade, and life may be prolonged. In either type the symptoms, polydipsia, polyuria and retarded development, may be present from birth or may develop during early childhood. Hitherto no case of either type has been materially affected by treatment.

Edinburgh Medical Journal

January, XII, No. 1, pp. 1-96

34 Isolation and Quarantine Periods in More Common Infectious Diseases. C. B. Ker.
35 *Association of Acutely Fatal Illness in Infants and Children with Abnormal Constitution (Status Lymphaticus). C. M'Neil.
36 Spinal Changes in Pseudohypertrophic Paralysis. A. N. Bruce.
37 What Is Genuine Milk? W. C. Dundas.
38 *Fertilization Time and Inception of Gestation in Women. J. Oliver.
39 Case of Osteochondritis Deformans Juvenilis. D. P. D. Wilkie.
40 *Spontaneous Recovery after Perforation of Duodenal Ulcer. J. W. Struthers.

35. **Fatal Illness in Infants and Children.**—In a group of thirteen infants from 2 to 4 months old, nearly all found dead in bed, and all apparently well-developed and nourished, the lungs in eight cases were examined by McNeal and showed marked congestion, bronchitis and bronchopneumonia. This was associated in most cases with hyperplasia, general or partial, of the thymolymphatic system. McNeal believes that these cases of sudden death in infants may therefore be described as cases of fulminant bronchitis and bronchopneumonia, associated with status lymphaticus. The same pathologic grouping was found in all cases examined of a very unusual series of fulminant bronchopneumonia in boys from 10 to 16 years old. The regularity of this association raises the question whether the fulminant nature of the illness in both groups may not have been due in some way to the influence of the morbid constitution usually termed status lymphaticus, the signs of which were unequivocally present in both groups. There is some evidence that fulminant types of other bacterial infections—scarlet fever and diphtheria—are also accompanied by thymolymphatic hyperplasia or status lymphaticus. In the two groups of fulminant pneumonia, thyroid hyperplasia in a marked degree was present in every case examined (eighteen). This thyroid hyperplasia seems to have existed for some time before death. The regular association of thyroid hyperplasia with thymolymphatic hyperplasia, McNeal suggests, may also be a mark of the same abnormal constitution or diathesis.

38. **Fertilization Time in Women.**—Oliver deduces facts to show that fertilization takes place at practically any time during the intermenstrual period, and that the ovum which is fertilized is invariably that belonging to an approaching menstruation, then because the pregnant uterus at or about the fourteenth day after the first menstrual period is missed, is approximately of the same size in every case, it follows that gestation must begin at a definite and fixed time in the human female. This definite and fixed time, Oliver suggests, corresponds most probably with the time when the preparation for menstruation would under ordinary circumstances have been begun, and consequently when a woman aborts about fourteen days after the inhibition of the first menstrual period the aborted product of conception is only about sixteen days old.

40. **Perforation of Duodenal Ulcer.**—The facts of Struthers' case seem to show clearly that a perforation may occur and be closed by adhesion to the liver shortly afterward, and that the adhesion may persist, in spite of the peristalsis associated with digestion, of vomiting, of the patient's getting up, etc., that fluid exudate, which must almost certainly have been present, may be absorbed, and any infective element present may be effectively dealt with by the peritoneum. Ten days after the onset of the illness, the abdomen was opened. The pyloric end of the stomach and the transverse colon were found glued to the liver, with some flakes of lymph along the line of adhesion. There was no fluid exudate present. The liver was easily separated from the stomach by gentle manipulation, and nothing of note was found till the first part of the duodenum was reached. As soon as this was separated, a gush of slightly bile-stained fluid escaped through a round hole, 3 to 4 mm. in diameter, toward the superior aspect of the duodenum, just beyond the pylorus. The fluid was mopped up, and the perforation at once closed and inverted with catgut stitches. There was no collection of fluid present elsewhere in the abdomen as far as could be determined. A posterior gastrojejunostomy was then made and the abdomen closed. The patient made an uneventful recovery.

Lancet, London

January 10, I, No. 4715, pp. 87-156

41 Prophylactic Inoculation against Pneumococcus Infections. A. E. Wright.
42 Unpolished Rice and Prevention of Beriberi. H. Fraser and A. T. Stanton.
43 Studies on Growth: Influence of Diet on Growth, Normal and Malignant. C. Funk.
44 *Simple and Successful Measure for Perforation of Gastric or Duodenal Ulcer. E. M. Corner.
45 Heliotherapy of Sciatica. J. J. Grace.
46 Two Cases of Postoperative Hemiplegia. A. W. Jones.
47 Secondary Hemorrhage from Deep Epigastric Artery after Operations for Appendix Abscess. J. O. Skevington.
48 Rupture of Heart by External Violence. A. M. Kennedy.

44. **Perforation of Gastric or Duodenal Ulcer.**—The operation advised by Corner consists of the following steps: (1) Open the abdomen below the umbilicus. Examine the appendix and the pelvic viscera. Place a gauze packing in each loin and in the pelvis and leave them there. Free gas may or may not be seen, but odorless greenish yellow fluid always is. (2) Open the abdomen above the umbilicus, e. g., through the inner part of the right rectus. Find the perforation, mop out any extravasation above and below the liver or round the spleen. Place one end of a gauze "plug" in the perforation to "cork it." Pack a layer or two of gauze plug over the ulcer and wind the rest round a rubber tube which leads out of the wound. (3) Partially close wounds after removing the gauze (draining the pelvis if there is much extravasation). In the convalescence do not withhold morphin, but do not use it heedlessly. At first withhold liquids by mouth except water in ounce doses. It will wash the interior of the stomach. A patient on "rectal saline" is in no great want of food by mouth. In forty-eight hours the drains or "plugs" are removed under an anesthetic and replaced in part. A gastro-enterostomy is not often needed, and no time is wasted in closing the perforation by suture.

Practitioner, London

January, XCII, No. 1, pp. 1-156

49 Clinical Experiences in Deceptive Symptoms. W. H. Bennett.
50 *Gait in Nervous Disease. D. W. C. Jones.
51 Stomach Aches Associated with General Infections in Childhood. H. T. Gray.
52 Some Physiologic Principles Concerned in Nutrition of Infants. E. Pritchard.
53 *Acute Intestinal Obstruction as it Concerns General Practitioner. J. Hartley.
54 Jaundice. E. A. Cockayne.
55 Diazo and Russo Reactions in Pulmonary Tuberculosis. H. H. Thomson.
56 Practical Points in Sphygmomanometry. G. Oliver.
57 Effect of Hypodermic Injections of Epinephrin on Blood Pressure. A. Watson.
58 Massage as Therapeutic Agent in Treatment of Neurasthenia. J. B. Mennell.
59 Painful Menstruation. J. Oliver.
60 Some Uses of Electricity in Medicine. A. F. Savill.
61 Recent Work in Surgery. E. G. Gauntlett.
62 Encapsulization as Factor in Pathology. J. B. Pike.
63 Khargeh Oasis as Health Resort. R. Johnson.

50. **Gait in Nervous Disease.**—Abnormalities in gait are all due to loss of well recognized functions of the several parts of the central nervous system, which consists, in brief, of afferent, efferent and coordinating systems. A tabetic has suffered damage to the parts of the posterior columns of the cord, which transmit sensations from muscles and joints, consequently, he depends entirely on sight for his equilibrium, wastes force by throwing the limbs too high and bringing them violently on to the ground, and assists balance by walking on an abnormally wide base. A patient with cerebellar disease cannot control the harmonious action of opposing groups of muscles, although quite conscious of his position, he therefore adopts a wide base, and his gait is reeling because he has to attempt to recover his balance when some ill regulated contraction pulls his center of gravity to one side. If the lesion is unilateral, his inclination is toward the injured side. A hemiplegic patient has rigidity of the whole of one side, and the affected leg is adducted and extended, so that the body must be inclined over to the sound side and the injured limb circumducted. A diplegic patient with the same condition on both sides must do the same with both legs producing the "scissor" gait. A paraplegic patient with less adductor spasm takes short steps, scraping the toes but without crossing the legs. A subject of peripheral neuritis, with paralysis of the dorsiflexors and drooping of the ankle, has to flex the knee and protract the hip so as to lift the drooped foot clear of the ground, thus producing the "steppage" gait. Finally, a patient with paralysis agitans, with rigid limbs and a stooping posture, has to run after his center of gravity with the short steps characteristic of the "festinating" gait. Attention to these considerations enables one in many cases to place the lesion with some accuracy, and Jones claims that the abnormalities in gait, which occur in the different forms of nervous disease, are symptoms of definite diagnostic significance.

53. **Acute Intestinal Obstruction.**—When the sequences of pain, vomiting and relief are present, and accompanied by distention of the stomach, and when the symptoms do not immediately clear up after two or three efficient enemas, given at intervals of an hour or so, especially if the stomach has been washed out at the same time by means of a soft tube, Hartley says, the practitioner will best consult his patient's interests by handing him over to a surgeon without waiting for further signs. If he waits until the abdomen has become distended, he will have enormously increased the difficulties and dangers of operation, and will have correspondingly decreased the chances of his patient. If he still delays until the other orthodox signs and symptoms have developed, namely, until the dry tongue, quick pulse, fecal vomiting, etc., have also become manifest, he will no doubt have made quite certain of his diagnosis, but he may be equally certain that he has almost entirely extinguished the slender chances that remained.

Sei-I-Kwai Medical Journal, Tokyo

December, XXXII, No. 12, pp. 133-138

64 Case of Extra-Uterine Gestation Occurring Twice in One Woman. S. Higuchi.

Journal of Tropical Medicine and Hygiene, London

January 1, XVII, No. 1, pp. 1-16

65 Arthritis in Sprue. G. C. Low.
66 Breeding Places of Sand Flies (Phlebotomus Spp.) in Anglo-Egyptian Sudan. H. H. King.

Annales de Gynécologie et d'Obstétrique, Paris

December, XL, No. 12, pp. 698-747

67 *Ether in Local Treatment of Peritonitis. Phélip and Tartois.
68 Hypophysis Extract in Obstetric Practice. A. Turenne.
69 *Action on Liver and Kidneys of Stovain Spinal Anesthesia. S. delle Chiaie.
70 *Nascent Formaldehyd in Gynecologic Practice. (De l'imprégnation formolée.) C. Le Masson and J. Marchal.

67. **Ether for Lavage of the Inflamed Peritoneum.**—Phelip and Tartois report sixteen cases in which they poured ether into the peritoneum in treatment of peritonitis from appendicitis in children, and they compare the outcome with a corresponding group of patients not treated with the ether. The impression on the whole is quite favorable. The sedative action of the ether was noticeable and welcome after the operation when child patients are usually more or less agitated. There was less tendency to vomit and the children seemed drowsy and quiet. With circumscribed inflammation they used from 30 to 80 c.c. of ether, pouring it into the pus cavity after its evacuation. When the peritonitis was diffuse, they poured 200 c.c. of the ether into the peritoneal cavity. The cavity was always amply drained. In three of the sixteen cases there were complications on the part of the lungs, fatal in two cases. Is it possible, they ask, that the ether could have affected the lungs? Another child had a cavity in the lung before the operation, and it did not seem to be affected in any way by the ether poured into the peritoneum. (In the control group, without ether, one of the children succumbed to postoperative bronchopneumonia.) Another child died from intestinal hemorrhage several days after the abscess had been evacuated and the small cavity rinsed out with ether. In the three other cases the death was the result of secondary ileus. There is nothing to incriminate the ether in the development of the ileus, the most that can be said is that it failed to ward off the ileus. (The ether method of warding off and treating peritonitis was described in THE JOURNAL, Sept. 27, 1913, p. 1082, and recent experiences with it were reported Jan. 24, 1914, p. 281.)

69. **Action of Stovain Spinal Anesthesia on the Kidneys and Liver.**—At the Naples clinic in charge of de Renzi, Jonnesco's method of high stovain anesthesia was applied in a number of cases, and Delle Chiaie examined conditions in regard to the functioning of the liver and kidneys afterward, to determine if the method was fraught with danger for these organs. The particulars of thirteen gynecologic cases studied in detail are given, and the finding emphasized that while the liver did not seem to be harmfully affected by the rachistovainization, the kidneys, if at all pathologic

beforehand, seemed to be seriously injured. Albuminuria was found constantly in all the patients, but it proved briefly transient in the women whose kidneys were known to be sound, while the albuminuria persisted in an aggravated form in the women with pre-existing albuminuria.

70. **Nascent Formaldehyd for Local Treatment of the Vagina.**—Le Masson and Marchal describe means by which formaldehyd fumes may be generated in the vagina for effectual sterilization by the action of formaldehyd on potassium permanganate crystals. A teaspoonful of each plus one of water is the usual formula. The 40 per cent. formaldehyd solution can be poured on the cystals on a layer of cotton in a stout atomizer bottle, pumping the fumes into the vagina as they are generated in the glass. The simplest method is to pour a few drops of the fluid on the crystals wrapped in a square of gauze and introduce the moistened wad inside a speculum already in place in the vagina. They state that the formaldehyd fumes are neither toxic, caustic nor painful, causing merely a slight smarting sensation.

Annales de Médecine et Chirurgie Infantiles, Paris

December 24, XVII, No. 24, pp. 813-848

71 Brain Tumors in Children. L. d'Astros. Commenced in No. 23.

Journal de Chirurgie, Paris

December, XI, No. 6, pp. 693-880

72 *Results of Treatment of Rectal Cancer. H. Hartmann.
73 Fracture of the Scapula. (Fractures du col chirurgical de l'omoplate.) J. Tanton.

72. **Cancer of the Rectum.**—Hartmann states that the records from eighteen surgical clinics, including his own, show with the low operative technic an immediate mortality of 15.8 per cent. in 1,665 operative cases of rectal cancer; 68 per cent. of the survivors succumbed to recurrence in a few years. This shows that 84 per cent. of the patients with rectal cancer operated on by the direct technic are destined to die within a comparatively short period. The outcome is decidedly better when the low technic was supplemented by a laparotomy, the immediate mortality in 260 cases being only 37 per cent. and the later mortality only 18 per cent. The aim should be, therefore, to perfect the technic for the combined operation, and Hartmann gives a number of suggestions, advising the laparotomy as the first step and closing with colostomy, excluding from the operation patients over 60, the obese, and those with defective kidneys, and removing with the cancer all the linked lymphatics.

Journal d'Urologie, Paris

December, IV, No. 6, pp. 893-1032

74 Staphylococcus Sepsis of Urinary Origin. (Staphylococcémies.) F. Legueu.
75 *Intravesical Treatment of Tumors with the High Fréquency Current. M. Heitz-Boyer.
76 *Tests of Kidney Functioning when Ureter Catheterization is Impossible. E. Pirondini.
77 Wind-Up of Treatment of Gonorrhea. (La fin du traitement de la blenorrhagie.) J. Janet.

75. **Treatment of Tumors in the Bladder by the High Frequency Current.**—Heitz-Boyer credits Beer with great progress in this line, but regards his own spark technic, *étincelage*, as more effectual and more certain than the electrocoagulation method. The spark is applied without direct contact, and he has found it extremely satisfactory in treatment in seventy cases of tumor in the bladder. He gives thirteen illustrations showing the different types of tumor encountered, and the way to reach the pedicle and thus remove the tumor at one stroke, or, by destroying radiating strips in the tumor, to create pedicles which can be severed in turn.

76. **Tests of Kidney Functioning.**—Pirondini's forty-page article reviews the literature on the subject especially when the ureters are not permeable, summarizing the views of leading urologists. If the kidney functioning as a whole is much below par he advises to refrain from removing a diseased kidney, as it is evident that either both kidneys are diseased or that the supposedly sound kidney is insufficient. If the kidney functioning as a whole is still good, the diseased kidney can generally be safely removed. The safety is greater the better the functioning as a whole when one kidney is known to be very seriously diseased. Intravesical segregation of the urine from each kidney is not a reliable means of investigation as a rule, unless the findings are clear and constant on several examinations. Chromocystoscopy may prove useful, permitting a guess at the functioning of the kidneys, and it sometimes aids in permitting catheterization of the ureters. If none of the above are practicable, the only way to obtain an insight into kidney functioning is by direct inspection of the supposedly sound kidney and the upper portion of its ureter or ureterostomy on this side or catheterization of the ureter after opening the bladder. The latter seems preferable to exploratory incision on both sides to expose both kidneys in turn. This does not permit examination of the urine.

Lyon Chirurgical, Lyons

November, X, No. 5, pp. 425-536

78 *Madelung's Deformity of the Wrist of Tuberculous Origin. (Radius curvus.) M. Cantas.

78. **Acquired Deformity of the Wrist.**—In the case reported by Cantas, the deformity of the wrist was manifestly the result of an inflammatory process from the toxic action of tuberculous infection. The process had evidently run the typical course of first softening of the bone and then a hardening inflammation. The deformity was corrected by resecting a segment of the ulna, pushing the radius back into place and immobilizing with plaster for a month.

Presse Médicale, Paris

December 24, XXI, No. 104, pp. 1049-1056

79 Insufficiency of the Liver as Factor in Hematemesis with Cirrhosis. A. Gouget and R. Pierret.
80 Antitoxin Content of Normal Serum. L. Bory.

December 27, No. 105, pp. 1057-1068

81 Starch Diarrhea in Infants. (La diarrhée des féculents.) V. Hutinel.

Revue de Médecine, Paris

December, XXXIII, No. 12, pp. 921-1006

82 Cancerous Meningitis; Twenty-Four Cases. Humbert and Alexieff.
83 *Osteomalacia. S. Bonnamour and A. Badolle.
84 Action of Theobromin and Sodium Salicylate on Edema. A. Kakowski.

83. **Osteomalacia.**—Bonnamour and Badolle conclude from their extensive research that osteomalacia is not due to any one single cause, but may be regarded as a syndrome originating either from infection, from disturbances in internal secretion, or from abnormalities of nutrition. The nervous system may reenforce either one of these original causes, either reflexly or through the vascular system, but it does not seem in itself to cause osteomalacia. The most evident and most incontestable result of osteomalacia is the decalcification of the bones, the loss of lime being manifested in the abnormally large proportions of lime found in the blood, urine and stools. Determination of the proportion of lime in the blood is thus useful both for diagnosis and prognosis.

Archiv für Gynaekologie, Berlin

C, No. 2, pp. 273-512. Last indexed Jan. 17, p. 243

85 Air Embolism in Obstetrics. T. Ilyin.
86 Weight First Twelve Days after Birth. (Die Gewichtsverhältnisse reifer norwegischer Neugeborener.) G. Benestad.
87 *Action of Hypophysis Extract from Castrated Animals. E. Kleemann.
88 *Displacement of Cecum during Pregnancy. H. Füth.
89 *Amenorrhea and Tuberculosis. M. Friedrich.
90 Bone Production in Fallopian Tube. L. W. Strong (New York).
91 *Kidney Complications in Pregnancy of Serious Import with Heart Disease. R. T. Jaschke.
92 Paravulvar Melanosarcoma. H. Offergeld.
93 *Pregnancy Pyelitis; Serologic and Clinical. W. Weibel.
94 Eosinophil Leukocytes in Inflammatory Infiltrates, Especially with Uterine Cancer. E. Weishaupt.
95 Hypophysis Extract in Obstetrics. (Pituitrin in der Geburtshilfe.) H. Oppenheimer.

87. **Action of Hypophysis Extract from Castrated Animals.**—Kleemann's experiments with hypophysis extract from various animals after removal of the ovaries or testicles, or merely of the corpora lutea, demonstrated that the effect was the same with six of the normal and the castrated animals, but that the effect differed materially when the extract was

taken from the hypophysis of a gravid animal. The extract obtained from gravid animals sometimes had a dilating and sometimes a constricting action on the vessels. He suggests that the contradictory experiences with hypophysis extract that have been reported may be explained by the fact that the extract in some cases came from an animal that was or had recently been gravid.

88. **Appendicitis during Pregnancy.**—Füth emphasizes the liability to errors in the diagnosis of appendicitis during the later months of pregnancy as the cecum is lifted up by the uterus so that the appendix is found high above its normal location. The conditions with pregnancy also favor development of more serious complications as he shows by a recent case in which pus flooded the field at the appendicectomy and the dead five months' fetus had to be removed by vaginal cesarean section.

89. **Amenorrhea and Tuberculosis.**—Friedrich found amenorrhea in 45 per cent. of forty-two women in the first stage of pulmonary tuberculosis; in 64 per cent. of ninety in the second stage and in 85 per cent. of sixty-eight in the third stage. She also reports that the lipoid content of the blood was found abnormally high in gravid rabbits, and still higher proportionally in pregnant women. She suggests that this lipoidemia may explain the frequent aggravation of tuberculosis by a pregnancy, and that it may possibly serve in the diagnosis of pregnancy.

91. **Kidney Complications in Pregnancy.**—Jaschke states that kidney affections were responsible for 27 per cent. of the mortality among the women with heart disease as reported from various maternities (31 of the 114 deaths). Fellner has also recently reported the fatal outcome of the pregnancy in 32 per cent. of his patients with heart disease plus nephritis. Valvular affections predominated. Jaschke regards it as immaterial whether the kidney trouble is recent or of long standing. If the kidney affection in a pregnant woman with heart trouble is accompanied by high blood-pressure, the pregnancy should be interrupted without delaying too long, as this is generally the only chance of saving the patient.

93. **Pregnancy Pyelitis.**—Weibel states that eighteen of the twenty-six women with pregnancy pyelitis proceeded to term with living children; five others had living children born prematurely; one woman aborted, and one developed eclampsia. All the women recovered, and he ascribes these comparatively good results to the routine treatment of direct medication of the kidney pelvis, refraining from operative measures. In 100 normal pregnant women he found the ureters more or less obstructed in 47 per cent., and predominantly on the right side.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXIX, No. 2, pp. 113-278. Last indexed Jan. 17, p. 244

96 *Flat Diagram of Thorax. (Planithorax.) H. B. Sandberg.
97 *Tuberculous Rheumatism; Masked Tuberculosis. E. Nohl.
98 *Conditions Regulating Phagocytosis. A. Kirchenstein.
99 *Multiple Scarification Technic for Tuberculin. M. Dübi.
100 *Alcoholism and Tuberculosis. Holitscher.
101 Beneficial Influence of Impeded Circulation with Therapeutic Compression of One Lung. O. Bruns.
102 Copper Treatment of Tuberculosis. (Erfahrungen mit der Kupferbehandlung bei innerer und äusserer Tuberkulose.) H. Eggers.
103 *Spinal Anomalies as Predisposing to Pulmonary Tuberculosis. (Bedeutung von Wirbelsäulenanomalien.) N. Küchenhoff.

96. **Plane Projection of the Thorax.**—Sandberg says that the general practitioner is too apt to neglect the axilla in examining the thorax. To combat this he has worked out for clinical records a plane projection of the upper part of the trunk, front and back, divided into six vertical fields, two of which represent the axillae.

97. **Masked Tuberculosis.**—Nohl gives the details of eight cases in which the final course showed that the pains and aches must have been the work of attenuated tubercle bacilli, a tuberculous rheumatism. He agrees with Poncet that the first thing in a case of rheumatism is to exclude tuberculosis. A rheumatic affection with a dragging course, tendency to ankylosis and lack of response to salicylates is suspicious of tuberculosis, especially when the general health suffers more than can be explained by any local process that can be discovered. It is better to err on the side of treating true rheumatism for tuberculosis than to neglect the measures necessary to combat the tuberculosis. The tuberculous rheumatism may manifest itself in various ways, from all forms of arthralgia up to the severest type of bony ankylosis. The tuberculous joint affection may subside and some visceral or pulmonary lesion then become manifest, or the joint trouble may come on as a visceral or pulmonary tuberculous process becomes inactive.

Nohl describes in detail nine cases which illustrate different types; the patients were between 17 and 30 except one woman of 35. The first symptom in one case was dysmenorrhea at times for a year and a half with pains in the joints; then acute peritonitis developed with severe paroxysmal pains but gradually subsided, leaving subfebrile temperature and constipation. A brief attack of pleurisy with effusion followed. The patient was treated as for tuberculosis, and she has been in good health for over two years now except for occasional rheumatic pains at various points. The trouble began in the second case with the syndrome of gout or subacute articular rheumatism, with severe pains in muscles and nerves, moderate fever, paroxysmal coughing, foamy sputum, râles, etc., all subsiding and returning at intervals. Then all these symptoms subsided and attacks of bronchitis followed, with continuous slight fever and at night symptoms of angina pectoris without weakness of the heart, and finally peritonitis with effusion. No tubercle bacilli were found at any time and inoculation of animals was negative, although years before the patient had had an apical tuberculous affection which subsided to a clinical cure under a course of tuberculin treatment.

98. **Phagocytosis of Tubercle Bacilli.**—Kirchenstein concludes from the comprehensive research which he reports that the essential causes of phagocytosis are of electrochemical nature.

99. **Scarification Technic for Tuberculin Treatment for Tuberculosis.**—Dübi analyzes twenty-five cases of pulmonary tuberculosis with tuberculin treatment by Sahli's method of multiple scarifications. To render the technic more uniform, he used a set of twenty-five needles mounted in a stamp, all pricking the skin at once. A drop of tuberculin in the desired dilution is dropped on the group of minute holes thus made, and a transient reaction follows. The true tuberculin reaction does not develop for about half a day or possibly not until after one or two days. By this method the area to which the tuberculin is applied is much larger than with other technics, and a weaker concentration can be used. This reduces to the minimum the general reaction while the absorption is more complete. He says that it is thus possible with effectual therapeutic doses to avoid any febrile reaction at any time through the long course of treatment, even in patients who always react with fever to corresponding or even smaller doses by the subcutaneous route.

100. **Alcohol and Tuberculosis.**—Holitscher sent out 7,300 question blanks for physicians connected with tuberculosis sanatoriums to fill out, one for each patient, giving the details in regard to the tuberculosis and drinking of spirituous liquors in the individual case and in the recent and remote family history. He was much disappointed that English physicians ignored his request, only Sweden, Norway and Hungary cooperated in the research, but he received a total of 3,000 filled-out blanks. The data show that the tuberculous do not become hard drinkers as a rule, but that persons addicted to alcohol are particularly liable to contract tuberculosis.

103. **Anomalies of the Spine Predisposing to Pulmonary Disease.**—Küchenhoff declares that too little regard is paid to the shape of the spine as providing a mechanical predisposition to apical lesions. When the upper part of the spine curves forward, the spinous processes project downward and encroach on the apex space, so that even slight kyphosis of the upper spine interferes materially with the circulation in and expansion of the apices. He gives two portraits of "round-shouldered" men as types of the anomaly in question, emphasizing that while tuberculous processes elsewhere in the lung

usually display a tendency to heal, those in the apex, handicapped by these mechanical conditions for which the spine is responsible, are unable to oppose adequate resistance to the infection

Berliner klinische Wochenschrift

December 29, L, No 52, pp 2409 2432

104 *The Spleen in Pernicious Anemia (Zur Pathologie der Milzfunktion II) H Eppinger
105 Ozena a Contagious Disease, Vaccination F Perez and G Hofer
106 *Stomach Functioning Not Directly Modified by Loss of Gall Bladder W Boss
107 Granular Atrophy of the Kidneys in Children C Jacobs

104 **Splenectomy for Pernicious Anemia.**—Eppinger quotes five other clinicians who have reported constantly favorable results from removal of the spleen in treatment of pernicious anemia He here discusses the mechanism of the benefit derived, his research indicating that the blood vessels in the spleen are modified in a peculiar way which permits the red corpuscles to escape into the pulpa, where they are destroyed The normal way through the capillaries seemed to be obstructed in the seven spleens he has removed for pernicious anemia When the red corpuscles escape into the pulpa and thus come in contact with connective tissue and die off, the conditions are much like those with hemorrhage from an artery, removing the spleen puts an end to the process, and it is possible also that merely ligating the splenic artery would answer the same purpose This should be reserved for cases in which there are objections to removing the spleen He calls attention further to the possible occurrence of 'blood lymph nodes," *Hamolymphdrusen*, in cases of pernicious anemia, they seem to be of a structure analogous to that of the spleen, and seem to be able to compensate for the lack of the spleen They are found in many animals, and he has noticed them in profusion in cases of pernicious anemia When benefit does not follow splenectomy, it is more than probable that these blood lymph nodes are carrying on the pernicious activity of the spleen Special attention should be paid to them in all cases of pernicious anemia, but the possibility of their presence, he reiterates, should not bring discredit on splenectomy as the most important measure in treatment of pernicious anemia

106 **The Gall-Bladder and the Chemistry of the Stomach**—Boss gives the stomach findings in nine cases from one to five years after removal of the gall bladder, and also in eleven cases in which the chemistry of the stomach was examined before the gall bladder was removed The findings fail to confirm the assumption that conditions in the gall bladder and its outlet influence secretion in the stomach, there was hyperacidity in some and hypoacidity in others In still others gastric secretion was entirely normal although the biliary apparatus was totally obstructed

Correspondenz-Blatt fur Schweizer Aerzte, Basel

December 27, XLIII, No 52, pp 1721 1752

108 Treatment of Abortion H Meyer Ruegg
109 From the Balkan War F Rusca Commenced in No 51

Deutsches Archiv fur klinische Medizin

CXIII, Nos 1 2, pp 1 208 Last indexed Jan 17, p 245

110 *Effect of Long Continued Excessive Carbohydrate Diet without Albumin on Metabolism in Man and Animals E Grafe
111 Cerebrospinal Fluid in Tuberculous Meningitis Mandelbaum
112 *Influence of Carbohydrate Diet on Nitrogen Metabolism in Infectious Fevers Pfannmuller
113 Leukemia Especially the Acute Form L Beltz
114 Dilatation and Decreased Contractility of the Heart as a Result of Over Exertion (Wesen der Herzschwäche infolge von Ueberanstrengungen) O Bruns

110 **Effect of Excessive Carbohydrate Diet on Metabolism.**—Many experiments have been performed to show the effect of large amounts of carbohydrates given at one time, and of a long continued excess of carbohydrates given with albuminous food But Grafe undertook the giving of large amounts of carbohydrates without albumin in order to determine the part played by nitrogenous food in forming reserve material and especially in the transformation of carbohydrates into fat The experiments were carried out on pigs, dogs and human beings There was no increase in weight and in several cases there was a decrease This seemed to be explained by an increased output of water and increased oxidation The reserve material laid up was almost entirely dry matter The addition of albumin to the carbohydrate diet immediately changed the negative water balance into a decidedly positive one The intensity of oxidation remained about the same, but in dogs the formation of fat from sugar seemed to be increased Tables are given showing in detail the weight, nitrogen balance, water balance and heat production in the different experiments

112 **Effect of Carbohydrates on Metabolism in Fever**—It has long been known that there is an extensive loss of nitrogen in fever Pfannmuller undertook to find out to what extent this could be reduced by the feeding of carbohydrates In a healthy man with no fever he found that by giving 500 gm sugar the nitrogen output was reduced approximately 10 per cent He describes, giving tables and temperature charts, three febrile cases in which he fed sugar and rice, as compared with a healthy control He found that with this he could not only compensate for the excessive nitrogen output but that it was actually reduced to lower figures than in the healthy individuals

Deutsche medizinische Wochenschrift, Berlin

December 25, XXXIX, No 52, pp 2545 2576

115 *Asphyxia (Behandlung der Asphyxie nach Erhängen Ertrinken Verbluten Intoxikation Einatmung irrespirabler Gase) Grober
116 *Treatment of Dilatation of the Esophagus H Starck
117 Treatment of Cleft Palate (Die Brophysche Gaumenspaltenbehandlung) E Kaerger
118 Radiotherapy of Cancer (Ersparnis an strahlender Energie bei der Behandlung des inoperablen Karzinoms) R Klotz (Ersatz radioaktiver Substanzen durch Rontgenstrahlen bei der Tiefentherapie) Salzmann
119 Oxidase Reaction in the Cerebrospinal Fluid S Szecsi
120 *Serodiagnostic of Cancer* K Hara
121 Leukocyte Count (Technik des Blutausstriches und eine neue Differentialzahltafel fur Leukozyten) Arneth
122 Return of Normal Menstruation for Three Years at 72 (Auftreten der Menstruation im Klimakterium) S Levy

115 **Asphyxia**—Grober says that fortunately in this condition the term "asphyxia," which means 'not beating" is a misnomer as the main trouble is with the lungs which are unable to get enough air to work on The heart may keep on beating faintly for a long time The radial pulse may be imperceptible while a pulse can still be felt in the carotid He discusses the asphyxia from hanging drowning, excessive hemorrhage, intoxication and breathing of suffocating gases After removing the cause of the asphyxia, the heart must be sustained, and the best means for this is by subcutaneous injection of camphor, injecting 1 c c at two, three or four different points of the body

In severe asphyxia it is better not to attempt to give anything by the mouth If the circulation is almost at a standstill, the camphor will not be absorbed, but by starting up the circulation by other means there will be this available reserve of stimulant for the heart Artificial respiration should then be started

The apparently drowned must have mud and slime wiped out of the mouth, prying open the jaws if necessary for the purpose When the patient has been buried under sand or dirt, this clearing out of the mouth is particularly important *Tracheotomy may be necessary* and this can be done on the unconscious patient without general anesthesia and, owing to the weakness of the heart, without fear of much hemorrhage Saliva, mucus and foreign particles are liable to accumulate at the entrance to the air passages during the course of artificial respiration, and such accumulations should be wiped out at intervals The natural respiration can be promoted and expiration increased by rhythmic pressure on the lower ribs or upper abdomen The elasticity of the chest in the young provides sufficient inspiration when the pressure is relaxed but this is not sufficient for the elderly. It is useful at intervals, during systematic artificial respiration to rest the workers Grober has also found useful sometimes a method of working on the diaphragm by raising the seat so that the pubis forms the highest point of the body, both legs are then lifted together, flexed at knee and hip, and pressed against the abdomen. This forces the relaxed abdominal walls and the intestines upward and against the diaphragm which bulges upward also and the air is thus expelled from the lungs. Drawing the legs down again and spreading them slightly expands the lungs again in turn.

There is great loss of body heat during asphyxia so that provision must be made for warmth, hot bottles, hot stones and blankets, supplemented by rubbing the extremities to aid the circulation, flexing rhythmically the knees and elbows to reduce the stagnation of blood. If the heart action grows weaker the pauses in the artificial respiration must be utilized to give heart stimulants. The last resort is massage of the heart, tapping with the palm or striking with the fist the chest wall over the heart, once a second. When this failed, some surgeons have reported success from direct massage of the heart, opening the abdomen for the purpose. There is danger of collapse later, when the patient is apparently out of danger, consequently he must be kept under close supervision, even after mild asphyxia.

116. **Treatment of Dilatation of the Esophagus.**—The main principles of Starck's treatment of patients with diverticulum or dilatation of the esophagus were summarized from the first part of his article, abstracted in these columns January 31.

Medizinische Klinik, Berlin

December 21, IX, No. 51, pp. 2099-2140 and Supplement

123 Scrofula and Its Treatment. Engel.
124 *Chondroituria with Kidney Lesions. (Zur Diagnose okkulter tonsillogener Nierenläsionen.) H. Pollitzer.
125 Partial Facial Paralysis. M. Bernhardt.
126 Neosalvarsan in Syphilis. J. Fabry.
127 Heliotherapy of Tuberculosis. H. v. Schrötter.
128 Action of Hydrogen Dioxid on Metals. (Wirkung des Wasserstoffsuperoxyds auf Metalle.) W. Eichholz.
129 Sudden Fatalities in the Water due to Perforation of Tympanic Membrane. (Die kalorische Alteration des Ohrlabyrinths bei offener Paukenhöhle als mögliche mittelbare Ursache des plötzlichen Todes beim Baden.) O. Muck.
130 Bacteriology of Atypical Typhoid. G. Wagner.
131 Treatment of Skin Diseases by Non-Specialist. J. Schaffer.

124. **Diagnosis of Kidney Lesions of Occult Tonsillitic Origin.**—Pollitzer recommends testing the urine for chondroitic acid as well as for albumin in case of kidney trouble in the young. The chondroitic acid, he says, seems to be a sign that the kidneys are suffering from the effects of infection. This is almost always traceable to the tonsils, and by systematic massage of the tonsils or by tonsillectomy the source of the trouble can be removed. He called attention recently to the fact that the urine in young persons with orthostatic albuminuria and in certain other conditions in which the urine is clinically free from albumin, becomes intensely turbid when treated with serum albumin in an acetic acid solution. This reaction is due to the presence of chondroitic acid. He gives an illustrated description of the simple technic for the test, and its mechanism.

Münchener medizinische Wochenschrift

December 30, LX, No. 52, pp. 2905-2928

132 *Pain in Shoulder with Pleurisy. (Schulterschmerz bei Pleuritis.) D. Gerhardt.
133 *The Specific Nature of the Abderhalden Protecting Ferments. (Spezifität der Abwehrfermente.) W. Meyer.
134 *Exercise of the Muscles by Electricity. (Zur Kritik der modernen elektrischen Entfettungskuren.) L. Roemheld.
135 Case of Filariosis of the Eye. Rauenbusch.
136 Arrest of Obstetric Hemorrhage. (Ein vergessener geburtshilflicher Handgriff.) E. Gräf.
137 Patient's Serum as Vehicle for Neosalvarsan. E. v. Schubert.
138 Conservation of Scarlet Fever Convalescent Serum. R. Koch.

132. **Misleading Pains in Pleurisy.**—In the course of two recent years seven patients were sent to Gerhardt's surgical service to be operated on for appendicitis, when the trouble proved to be merely abdominal pains ushering in pneumonia. In four other cases the pains were in the shoulder, and one patient had been treated for a supposed shoulder-joint-trouble. In all four cases the friction sounds of pleurisy were evident but only over the lowest part of the inferior lobe. In one case there was an infarct in the lower lobe but the pleurisy caused no effusion and the pains in the shoulder subsided in about twelve hours. In two of the patients the pleuritis was secondary to pneumonia of the inferior lobe, and the pains in the shoulder lasted only for twenty-four hours. The fourth patient had chronic pleurisy without effusion and the pains in the shoulder kept up for two weeks. This isolated pain in the shoulder with diaphragmatic pleurisy is evidently connected with an irritable condition of the sensory fibers of the phrenic nerve. Its practical importance lies in the necessity for differentiating the primary pleuritis when pain in the shoulder suggests a joint process. Tenderness of the nerve may aid; the location and spread of the pain are like those with neuralgia of the phrenic nerve except that the nerve trunk is usually involved in the latter while with the pleurisy the terminals are the seat of the trouble.

133. **Specific Action of the Abderhalden Defensive Ferments.**—Mayer states that his experience in 110 neurologic and psychiatric cases has confirmed the specific nature of the enzymes involved and the results of the experimental research he reports corroborate this further. They also show that for clinical diagnosis, organs from another species may be utilized. He says that the contradictory results reported by some writers may be due to the fact that they did not give the ferments time to develop. He allowed four, five and seven days, and found then an absolute organ specificity in the rabbits.

134. **Electric Treatment of Obesity.**—Roemheld has treated twenty obese patients with electric exercising of the muscles, but did not witness any reduction in weight greater than what was realized with ordinary dietetic restrictions without the "bergonizing." The main thing in treatment of obesity is and must be regulation of the diet, and Bergonié himself only regards the electric passive exercise as one factor in the treatment of obesity.

On the other hand, Roemheld thinks that the electric passive exercise is destined to prove of great importance as a means of exercising the muscles in heart disease. With careful application, the method does not increase the blood-pressure or show any other deleterious action, while it is an excellent means of exercising the muscles. It is useful for the same reasons in cases of disturbance in the peripheral circulation with reduced tonus of the vessel. It is also a practical and efficient means to strengthen and give tone to the abdominal and pelvic muscles after a childbirth, as already mentioned in these columns, Nov. 29, 1913, p. 2024.

Wiener klinische Wochenschrift, Vienna

December 25, XXVI, No. 52, pp. 2121-2128

139 *Appendicitis in the Elderly. J. Philipowicz.
140 *Sagging Chest. (Thoraxsenkung.) L. Hofbauer.

139. **Appendicitis after Fifty.**—Among 1,080 patients with appendicitis at von Eiselsberg's clinic since 1905, twenty-nine of the patients were between 51 and 72. The inflamed appendix was found in a hernia more frequently among the elderly, but incarceration of the appendix causes less disturbance than when a loop of intestine is involved. In four cases the insidious onset with extreme emaciation and signs of obstruction of the intestine in three cases and even blood-stained stools in one instance, suggested cancer in the large intestine, but the whole trouble subsided after removal of the chronically inflamed appendix. In the fourth case the only symptoms were from the stomach; the insidious course, emaciation, tenderness in the epigastrium, hyperacidity and lactic acid in the stomach content, and dubious roentgenoscopic findings pointed to gastric cancer, but all disturbances ceased after appendicectomy, the chronic appendicitis having entailed adhesions between the ascending colon and the duodenum.

140. ***Attitude of the Chest Predisposing to Disease.***—Much attention has been attracted to Czerny's recent statement that he has scarcely ever found apical tuberculosis in narrow-chested children while, on the contrary, he has found it common in children with unusually full, expanded chests. The chest in the latter group is inflated to the utmost and keeps inflated, the air not being adequately expelled from it. Hofbauer's experience has confirmed this and also the predisposition to apical processes induced by the lack of expiration of the air. Health depends on elastic filling and emptying of the air

passages, thus providing for proper circulation of air, blood and lymph. When the apex is kept permanently still, the conditions favor disease, regardless of whether the immobilization is from persisting expansion or from persisting lack of air. He calls attention to the harm that may be done by exercises in deep breathing without providing for thorough emptying of the lungs. Laymen are fond of these deep-breathing exercises, but they do not realize the necessity of equally deep expiration. As the exercises are frequently done, they afford an actual predisposition to tuberculosis rather than the reverse.

The defective participation of the muscles in the act of expiration has an injurious influence on the abdomen also. When the front of the chest sags, the abdominal walls below sag with it and conditions favoring enteroptosis develop. By training the muscles of expiration, the abdominal wall regains its elasticity and the normal play of the elastic forces throughout is restored. As Hofbauer expresses it, correction of the dynamics restores normal statics in the thorax.

Zeitschrift für Kinderheilkunde, Berlin

IX, No. 6, pp. 415-493. Last indexed Jan. 31, p. 421

141 Analysis of the Viscera in Scorbutus. [illegible] B[illegible]lowscher Krankheit.) H. Bahrdt [illegible]
142 Eosinophilia in Infants a Symptom of [illegible] H. Putzig.
143 *Stomach Digestion in Infants. H. Davidsohn.
144 Boy of 13 Never Learned to Swallow Solid Food. (Nährschaden durch psychogene Perseveranz auf Milchkost.) T. Goett.

143. **Stomach Digestion in Infants.**—Davidsohn describes in detail his methods of examining the contents of the infant's stomach, and calls attention to the fact that the reaction is much less strongly acid than in the normal adult stomach. This weakly acid reaction is the one most favorable for coagulation, for lipolysis and casein digestion. Digestion takes place in two stages, first coagulation and then digestion of the fat. The maximum of coagulation is reached about forty-five minutes after ingestion of the milk. Contrary to the condition in adults, there is no backward flow of pancreatic juice into the infant's stomach. But there is a lipase secreted in the stomach itself which has marked fat-splitting properties. The higher the fat-content of the milk the longer it stays in the stomach.

Zentralblatt für Chirurgie, Leipsic

December 27, XL, No. 52, pp. 1985-2136

145 Gangrene of the Feet from Exposure to Cold. (Zur gefässparalytischen Kältegangrän im Balkankrieg.) Wieting.
146 Advantages of Supplementing Laryngectomy with Gastrostomy. F. Torek (New York).
147 Fascia Flap for Operation on Club-Foot. S. Kofmann.

January 3, XLI, No. 1, pp. 1-48

148 Field of Operation Made Sterile with Varnish Covered with Gauze. (Mastisol-Abdeckungsverfahren.) E. Dietsche.
149 *Protection of Thiersch Flaps with Cork Paper. A. Wydler.
150 *Operative Treatment of Movable Cecum. C. Francke.

149. **Cork Paper for Protection of Thiersch Flaps.**—The extremely thin sheets of cork paper such as are used for the tips of cigarettes have proved of great assistance in the management of Thiersch flaps at de Quervain's clinic during the last six years. The sheets of cork tissue are 10 by 15 cm. in size, and 1/100 or 1/10 mm. thick; they are porous, flexible, and can be sterilized with the dressings in steam. They can be fitted to almost any surface and the dressings do not stick to them so much as to some substances. The cork paper is applied at once after the grafts are in place, and it is left as a rule until it is spontaneously cast off. The dressings above it can be changed as desired but they are generally left undisturbed for six days.

150. **Operative Treatment of Movable Cecum.** — Francke shortens an abnormally long cecum by running three or four fine silk threads lengthwise of the gut over a space of about 8 or 10 cm., taking each stitch about 1 cm. long, at intervals of the same length. Each silk thread is then tied separately. This puckers up the gut, folding it in and out like a harmonica, and shortens its length by one-half as desired, curing all tendency to sagging or torsion, while leaving the gut still freely movable in its place.

Zentralblatt für Gynäkologie, Leipsic

December 27, XXXVII, No. 52, pp. 1869-1914

151 Streptococci from Vagina Subordinate Factors in Puerperal Fever. (Aetiologie und Prophylaxe der endogenen puerperalen Infektion.) M. Traugott.
152 Appendix Torn Off in Curetting Uterus; Recovery. I. Braude.
153 Inversion of Puerperal Uterus. W. Jonas.

January 3, XXXVIII, No. 1, pp. 1-64

154 Credits in Examination in Obstetrics and Gynecology. O. Küstner.
155 Three Days the Limit of Survival of Active Spermatozoa in [illegible] Organs. (Lebensdauer homologer und [illegible] im weiblichen Genitalapparat und [illegible] Hoehne and K. Behne.
156 *Fascia Sling for Prolapsed Uterus. G. Schubert.
157 Radiotherapy of Cancer. Flatau.
158 Acromegaly and Ovarian Therapy. H. Bab.

156. **Fascia Sling for Total Prolapse of Genital Organs.**—Schubert says that the usual methods for correction of prolapse do not go to the root of the trouble, that is, the relaxed and sagging condition of the fascia supports of the uterus. This insufficiency of the fascia supports is not remedied by the usual fixation of the organs or shortening of ligaments. He has applied in six cases a method by which two strips of fascia taken from the abdominal wall are passed around the uterus and across the cervix and crossed again over the symphysis, suturing them along their course and drawing up tissue over them to leave no recess at any point into which a loop of bowel might slip. He operates through a transverse incision. The method has been applied to date only where there was no further chance of a pregnancy. He proposes where the uterus is still functionally capable to modify the technic, making the fascia sling by drawing the fascia strip across the pelvic inlet and suturing it to the rear of the ligament. The fascia lata could also be utilized.

Zentralblatt für innere Medizin, Leipsic

January 3, XXXV, No. 1, pp. 1-32

159 The Fever after Vaccination. R. v. Jaksch.

Gazzetta degli Ospedali e delle Cliniche, Milan

XXXIV, Nos. 151-155, pp. 1583-1638

160 Visiting Days in the Public Hospitals. R. Maffei.
161 *Glandular Fever or Follicular Diphtheria? (Febbre ganglionare e cripto-difterite.) P. Galli.
162 Cultivation of Pathogenic Protozoa. E. Bertarelli.

161. **Diphtheria Simulating Glandular Fever.**—Galli remarks that while the course of Pfeiffer's disease is generally mild yet occasionally it assumes a graver form, the fever persisting long past the usual four or five days and the system showing the effects of extreme intoxication. This syndrome, he is convinced, is the work of diphtheria bacilli. They do not settle in the throat as usual but start trouble in the cervical lymph-nodes. He reports seven cases of this type, the onset stormy, the toxic action increasing up to the fifteenth day, with prostration, but no signs of diphtheric false membranes or other characteristic findings in the throat. Smears from the nasopharynx disclosed bacilli resembling diphtheria bacilli, and the children began to improve at once on injection of antitoxin. He says the syndrome might well be called follicular diphtheria. The swollen and painful glands were always those back of the sternocleidomastoid muscle in each case; none elsewhere seemed to be involved in the process.

Policlinico, Rome

December 21, XX, No. 51, pp. 1841-1876

163 Ptosis of Eyelids from Syphilitic Meningitis. G. Artom.
164 *Tendon Substitute for Patella. (Traplanto tendine-aponeurotico in sostituzione della rotula estirpata.) M. Fasano.
165 *Serodiagnosis in Undulant (Malta) Fever. N. Salvatore.

164. **Tendon Flap as Substitute for the Patella.**—Fasano states that the functional results now eight years after the operation are as fine as they were at first in the case he reported in 1908 in which he replaced the patella, destroyed by an osteomyelitic process, by a flap cut from the tendon of the quadriceps above and turned over with the raw side out. The flap was sutured in place and has answered its purpose perfectly to date. Somewhat similar operations on dogs have given equally good and durable results.

165 **Agglutination in Malta Fever.**—Salvatore tabulates the responses to the agglutination test in eighty persons with symptoms suggesting Malta fever at Palermo They confirm the experiences of others to the effect that agglutination at 1/40 may be regarded as specific for the *Micrococcus melitensis* if the typhoid and colon bacilli do not agglutinate at this dilution.

Riforma Medica, Naples

December 20, XXIX, No 51, pp 1401 1428

166 Vesicular Murmur and Bronchial Respiration in Health and Disease P Bueri
167 Hypertrophy of the Prostate and Operative Treatment, Thirteen Cases G Monzardo Commenced in No 50
168 Relapse in Typhoid Fever a Reinfection G D'Aloia

Rivista Ospedaliera, Rome

December 15, III, No 23, pp 1021 1078

169 *Strangulated Hernia, 164 Cases G Egidi Commenced No 22
170 Vaccine Therapy in Typhoid A Blocca

169 **Strangulated Hernia.**—Operative treatment was applied in all but one of the 164 cases reviewed, the communication embracing fourteen years' work in R Bastianelli's service at Rome Twenty eight of the operative cases terminated fatally, and the details are tabulated in these fatal cases for comparison They show that even in this enlightened age many persons let an incarcerated hernia progress to the stage of gangrene before seeking a physician, in only five of the eleven patients who died within a few hours after the operation was the intestine found in a condition which would have permitted its retention The outcome depends more on the general condition than on the condition of the intestine, the disturbances from arrested bowel functioning had brought some of the patients to the brink of the grave even when the bowel itself was not irremediably injured The material reviewed teaches further that it is better to resect the injured tract rather than to try to get along without resection by making an artificial anus in the small intestine Patients operated on in this way died from inanition

The prognosis of resection depends on both the general condition and the condition of the bowel, and these do not necessarily parallel each other by any means When resection can be done with the patient's general condition still good, the outlook is comparatively favorable In one case it semed safe to reduce the hernia and the loop retained its vitality unimpaired but adhesions developed rapidly, kinking the gut and compelling resection the third day, which the patient was unable to survive One patient succumbed to chloroform intoxication, manifested in jaundice and acute nephritis, another to cerebral embolism, and five to complications on the part of the respiratory organs In this last group resection had been done in only one instance, in the others the intervention had been of the mildest character The anesthesia had been by the spinal route in two in this group The general anesthesia certainly contributed to the catastrophe in the others A simple technic is advocated which can be done under local anesthesia and which has worked well in the three cases in which Egidi has applied it The gangrenous stretch is tied off with a ligature at each end and is cut out with the actual cautery Each stump is then turned inward and sutured and the gut beyond is brought together for an anastomosis This technic is particularly adapted for a femoral hernia In conclusion Egidi reiterates that he is convinced that local anesthesia answers all purposes for operating on a strangulated hernia, while general anesthesia is particularly dangerous when the system has been seriously poisoned by the effects of the obstruction in the bowel

Tumori, Rome

III, No 3, pp 309 440

171 Tumor Grafting in Other Species (Innesti eterogenei di tumori) I Nasetti
172 Spontaneous Tumors in Dogs M Almagia
173 Autolysates in Treatment of Cancer (Sulla istoterapia dei tumori maligni dell uomo) A Bazzocchi
174 *Spread of Cancer of the Kidney (Propagazioni dei tumori maligni del rene con speciale riguardo alla loro obbiettivita epatica) A Saviozzi
175 Hemo angioma of the Mammary Gland G Marangoni
176 Primary Tumors of the Serous Bursae G Bolognesi

174 **Involvement of Liver with Cancer of Kidney**—When the tumor is in the upper part of the kidney it pushes the liver up as it develops, causing the liver to pivot on its transverse axis The natural consequence is that the symptoms are generally all from the liver In the first of the two typical cases of the kind reported by Saviozzi there was no hematuria or disturbance in urination An exploratory laparotomy revealed the inoperable cancer, the kidney projecting like an appendix from the liver The patient died in a few hours The first vague disturbance in the abdomen had been noted only six months before In the second case the patient was a man of 24 and the interval had been less than two months after the first symptoms, merely pain at times in the liver region Then fever and chills followed The diagnosis of echinococcus cyst of the liver seemed certain until hematuria drew attention to the kidney On account of the resemblance to the first case the true condition was then differentiated, and the operation confirmed it in every particular Küster has reported a similar case in which the patient died from embolism in the pulmonary artery before the operation had been concluded, and this occurred likewise in the case under discussion The cases teach that liver symptoms in a case of primary kidney cancer seem to show that the growth is practically beyond operative relief The pathologic anatomic details are shown in five large plates, two of them colored

Brazil-Medico, Rio de Janeiro

December 1, XXVII, No 45, pp 486 497

177 Classification of Gadflies (Sobre a systematica dos tabanideos sub familia tabaninae) A Lutz
178 Campaign against Tuberculosis A Sodré

December 8, No 46, pp 498 509

179 Insect Host of Trypanosoma Cruzi (Transmissão do trypanosoma Cruzi pelo rhipicephalus sanguineus—Latr) A Neiva
180 Campaign against Tuberculosis J V Romelio
181 Instruction in Neurology and Psychiatry (Doenças mentaes e nervosas) H Roxo

Semana Medica, Buenos Aires

November 27, XX, No 48, pp 1237 1300

182 Aphthous Fever R Kraus and G Fischer
183 Appendicitis plus Diverticulitis D Del Valle
184 Sanitation Problems and the Attempts in Various Countries to Solve Them (Eliminacion de los productos cloacales y residuos industriales Su depuracion biologica y quimica) P J Pando Commenced in No 44
185 Electrocardiography C A Correas and M Zayas

St Petersburger medizinische Zeitschrift

December 14, XXXVIII, No 23, pp 337-350 German edition

186 Fracture and Dislocation of the Elbow A Hilse

December 28, No 24, pp 351 369

187 Therapeutic Pneumothorax P Mende
188 Alienist Testimony in the Courts (Das psychiatrische Gutachten vor Gericht) H Hildebrand

Ugeskrift for Læger, Copenhagen

November 20, LXXV, No 47, pp 1847 1874

189 *Epinephrin Treatment of Asthma (Adrenalinbehandling ved Asthma bronchiale) E Meulengracht

189 **Epinephrin in Asthma**—Meulengracht states that in five cases he injected 0 0005 gm of epinephrin subcutaneously for the relief of asthma, that is, half a Pravaz syringe of the ordinary 1 1,000 solution, and found it far more effectual than any other measure he has ever used for the purpose One patient was given 1,500 of these injections in the course of nine months According to his experience there is no cumulative action and the system does not become accustomed to the epinephrin, it seemed as effectual each time as at first, but it does not seem to have any effect in eradicating the tendency to asthma This did not appear to be modified in any instance, notwithstanding the prompt and constant symptomatic benefit each time The effect is more pronounced the earlier the epinephrin is used in the attack Local application and inhalation of epinephrin spray also proved useful but were far less effectual than the subcutaneous injection His patients were between 31 and 59 and were all in the hospital for other causes except the one who received the record number of injections, who was bedridden most of the time from her subintrant asthma.

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ORIGIN AND PRESENT STATUS OF THE EMETIN TREATMENT OF AMEBIC DYSENTERY [*]

EDWARD B. VEDDER, M.D.
Captain, Medical Corps, United States Army
WASHINGTON, D. C.

Amebic dysentery is known to be fairly common in certain parts of the United States, and as a matter of fact is more generally distributed and more frequent than is usually supposed. The treatment of this disease, in the past, has been rather unsatisfactory; but within the last two years a new treatment, namely, the hypodermic injection of the soluble salts of emetin (alkaloid), has been introduced. Since the literature bearing on this work is scattered throughout the medical journals of the world, and much of it is rather inaccessible, it is thought that a discussion of this subject will prove of interest.

THE ORIGIN OF THE EMETIN TREATMENT

Large doses of ipecacuanha have been used for many years in the treatment of dysentery, particularly by the English practitioners in India. Even before this use of the drug, Pelletier, in 1817, described an alkaloid in ipecacuanha which he called emetin. Later researches have shown that this alkaloid of Pelletier was, in reality, a mixture of three alkaloids, emetin, cephaelin and psychotrin.

Until very recent years these alkaloids have remained pharmacologic curiosities, and were not generally used in medicine. Attempts to use emetin have naturally been made from time to time. Thus Captain Douglas,[1] I. M. S., says: "It would seem that the use of emetin in dysentery is not new to therapeutics, for in 1817 Magendie and Pelletier recommended its use and L. Bardsley in 1829 obtained good results in dysentery and chronic diarrhea. That this very effectual remedy passed from the ken of medicine was most probably due to the fact that the differences between amebic and bacillary dysentery were not diagnosed." This is also probably the explanation of the failure of Walsh,[2] who used emetin mercuric iodid without result in the treatment of acute dysentery. As Walsh himself said, "it (emetin) is not proved to be much better than preparations of *Wrightia antidysenterica*, and I do not claim any preeminence for it, nor do I recommend it above other drugs. It is not even proved to be better than other drugs, which are not supposed to have any 'specific' action on dysenteric conditions."

Walsh did not state whether or not any of his cases were amebic in origin, but since he was treating acute dysentery, it is probable that the majority of his cases were bacillary dysentery. Moreover, he administered the mercuric iodid salt of emetin, which was probably not a particularly favorable preparation. These and other attempts to use emetin proved unsuccessful.

Moreover, there was a great divergence of opinion as to the value of the ipecac treatment of dysentery. Many authors lauded it as a specific, but, on the other hand, equally eminent authorities failed to obtain any results whatever from this treatment, and condemned it as unscientific and worthless.

It seemed apparent that there must have been some good reasons why authorities should, after careful trial of ipecac, arrive at conclusions diametrically opposed, and it seemed probable that this discrepancy might have resulted, both because different preparations of ipecac varied considerably in their action, and because some of the investigators had used ipecac indiscriminately in all dysenteries, whether bacillary, amebic or due to some other cause.

Experiments[3] were therefore undertaken in 1910 to determine whether or not ipecac had any decided action against either dysentery bacilli or amebas, and if such action were present, to what constituents of the ipecac this action was due.

The results of these experiments were suggestive. In brief, it was demonstrated that ipecac possessed no specific bactericidal effect against *Bacillus dysenteriae*, but that it was a powerful amebacide, the weakest preparation used killing amebas in a dilution of 1 : 10,000. It was further shown that emetin was exceedingly active, killing amebas in dilutions of 1 : 100,000, that deemetized ipecac was relatively quite inert, and that different preparations of ipecac on the market varied greatly in their alkaloidal content and amebacidal action. It was therefore suggested that the amebacidal action of any given specimen of ipecac was directly dependent on the proportion of emetin contained.

In a later publication[4] these results were reaffirmed, and it was pointed out that the greater part of the emetic action of ipecac is not due to emetin but to cephaelin, and that if emetin were amebacidal without being especially active as an emetic, we should have at our command the ideal drug for use in amebic dysentery, a drug that might prove as satisfactory as is quinin in malaria. The hope was expressed that other workers would become

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[*] From the Department of Pathology, Army Medical School, Washington, D. C.

[1] Douglas, S. R.: In discussion on treatment of dysentery, Jour. Trop. Med. and Hyg., 1913, xvi, 264.

[2] Walsh: What is the Rational Treatment of Acute Dysentery? Indian Med. Gaz., September, 1891.

[3] Vedder, E. B.: A Preliminary Account of Some Experiments Undertaken to Test the Efficacy of the Ipecac Treatment of Dysentery, Bulletin, Manila Med. Soc., March, 1911.

[4] Vedder, E. B.: An Experimental Study of the Action of Ipecacuanha on Amoebae, Tr. Second Biennial Congress of Far Eastern Assn. Trop. Med., Hong Kong, January, 1912, p. 87; abstr., Jour. [illegible] and Hyg., 1912, xv, 313.

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interested in the problem and verify the observations. This hope was already in the process of being realized. Lyons,[5] working independently on the same problem, had failed to find that ipecac had any amebacidal effect on amebas *in vitro,* but stated that the alkaloidal content of his preparation of ipecac was unknown. One specimen which remained was assayed and found to contain only one-fifth of the total alkaloids required by the U. S. Pharmacopeia.

Wherry's conclusion,[6] as the result of similar observations, was: "Emetin in 1 : 20,000, 1 : 100,000 and 1 : 200,000 dilutions killed the amebas in one of the five series of experiments after twenty-three hours' exposure at from 36 to 38 C. (from 96.8 to 100.4 F.). None of the dilutions was amebacidal in an hour. It seems fair to presume that when amebacidal action was manifested, the emetin acted on the trophozoites alone, and that failure to kill may be attributed to the presence of cysts."

These experiments were all performed with free-living amebas which could be cultivated. Since the parasitic amebas are far less resistant to unfavorable agencies, it was reasonable to suppose that these also would be destroyed by emetin. Rogers was attracted by Vedder's results and tested the action of emetin solutions on *Entamoeba histolytica* in dysenteric stools.[7] He found that motility ceased promptly and that destruction of the amebas rapidly followed. These experiments, however, were comparatively unimportant. I had, myself, made a few similar observations, but had not considered them of particular significance, because the parasitic amebas soon lose their motility and disintegrate rapidly even when kept in a stool or liver-pus under the most favorable circumstances, and also because, as is now generally admitted, the pathogenic *Entamoeba histolytica* has never been cultivated, and it was, of course, impossible to prove whether the amebas apparently killed by emetin were really dead or not.

The credit, however, for having first utilized the experimental results in the treatment of dysentery belongs to Rogers. He had long advocated the use of ipecac in amebic disease, and in 1907 demonstrated that the same drug would rapidly cure an amebic hepatitis in the presuppurative stage, and thus prevent the formation of amebic liver abscess. Having been convinced of the action of emetin on amebas *in vitro,* Rogers decided to use emetin hypodermically, and in June, 1912, he reported[7] two cases of severe amebic dysentery and one case of acute hepatitis which were rapidly cured as the result of this treatment.

In August, 1912, Rogers published further experiences with emetin in amebic disease, reporting twelve cases treated by this method.[8] This paper included cases of acute amebic dysentery; of chronic amebic dysentery; of acute hepatitis in which the formation of pus was prevented by the use of emetin, and of amebic abscesses of the liver cured by aspiration and injections of emetin.

This was followed by a communication[9] in October, 1912, in which he compared twenty-four cases of amebic dysentery in which soluble salts of emetin were given with thirty consecutive cases in which ipecac was used. Table 1 shows the result:

TABLE 1.—COMPARISON OF IPECAC TREATMENT OF AMEBIC DYSENTERY IN THIRTY CASES WITH EMETIN TREATMENT IN TWENTY-FOUR

	Ipecac	Emetin
Died from dysentery within three days of admission	4	2
Died over three days after admission	7	0
Died from other diseases after cure	0	2
Removed from hospital in bad condition	2	0
Left hospital unchanged or not cured	4	0
Cured	13	20
Average days in hospital of cured patients	16.4	7.2
Average days before stools became normal	11.4	2.35
Grains of ipecac or emetin to that time	406	2

These articles placed the new treatment of amebic dysentery and hepatitis by emetin on a firm basis, and excited world-wide interest. It has since been tried with practically uniform success by French, German, English, American, Italian and Spanish practitioners. The literature summarized in Table 2 includes nearly all of the reported cases up to date, but many more cases have been successfully treated without a report having been made.

It is now believed that sufficient information has been collected with regard to this treatment to warrant a discussion of the following points:

1. Is the emetin treatment really effective in the treatment of amebic dysentery?

The answer is most positive and satisfactory. As will be seen from Table 2, in 110 cases treated by this method by twenty-two observers, ninety-nine patients were clinically cured, while eleven died. The standard of cure in these cases consisted of the return to normal formed stools, and a total absence of any dysenteric symptoms. Amebas had often entirely disappeared from the stools, but in other cases were still present. The significance of amebas persisting in the stools will be considered later. Meanwhile it is important to consider the eleven fatal cases.

One case reported by Rogers,[8] Case 3, was a case of gangrenous amebic dysentery in a confirmed opium-eater. Necropsy revealed most extensive ulceration affecting the whole length of the large intestine. The caput coli was gangrenous with little but the peritoneal coat remaining. A prolonged microscopic examination of scrapings of the ulcers in various parts of the bowel failed to reveal a single living ameba, and sections through the walls of the more recent ulcers showed not a single parasite.

Two other deaths are reported by Rogers[9] in cases ending fatally within three days after admission to hospital. To one who is familiar with amebic dysentery it is apparent that patients with this disease must be in a desperate condition indeed to die within three days of admission.

Baermann and Heinemann[10] treated twenty-two cases with seven deaths, which shows beyond a doubt that their cases were also in a very advanced stage. They themselves say, "with regard to these cases, a cure could not have been effected even if the amebas were killed and the ulcers healed. . . . Even these cases were interesting, for the necropsy showed almost without exception a complete recovery of the intestine. In no case could amebas be demonstrated in the mucous membrane either in superficial ulcers or in the undermined ulcers."

Lyons[11] reported one death, but says, "In fairness, however, this case should be omitted in judging the treatment, as the patient was beyond redemption." Cases

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[5] Lyons: Observations on the Effect of Ipecac, Phenol and Salicylic Acid on Amoebae in Vitro, New Orleans Med. and Surg. Jour., June, 1912.

[6] Wherry: The Amoebacidal Action of Emetine, Jour. Infect. Dis., 1912, x, 162.

[7] Rogers: The Rapid Cure of Amoebic Dysentery and Hepatitis by Hypodermic Injections of Soluble Salts of Emetine, Brit. Med. Jour., 1912, i, 1424.

[8] Rogers: Further Experience of the Specific Curative Action in Amoebic Disease of Hypodermic Injections of Soluble Salts of Emetine, Brit. Med. Jour., 1912, ii, 405.

[9] Rogers: Treatment of Amoebic Dysentery, Ind. Med. Gaz., 1912, xlvii, 421; abstr., Jour. Trop. Med. Hyg., March 1, 1913, p. 72. See also Lancet, London, 1912, ii, 160.

TABLE 2.—LITERATURE ON EMETIN TREATMENT OF AMEBIC DYSENTERY

	Cases Dysentery Treated	Cures	Deaths	Cases Hepatitis Treated	Cures	Deaths
Rogers[7,8,9]	30	27	3	6	6	0
Baermann and Heinemann[10]	22	15	7	..	..	..
Lyons[11]	6	5	1	..	..	..
Low[12]	1	1	0	..	..	..
Chauffard[13 14 43]	2	2	0	2	2	0
Flandin and Dumas[15]	..	..	..	1	1	0
Dopter[16]	1	1	0	..	..	..
Job and Levy[17]	1	1	0	..	..	..
La Cava[18]	2	2	0	..	..	..
Destefano[19]	2	2	0	..	..	..
Valence[20]	1	1	0	..	..	..
Verteuil[21]	1	1	0	..	..	..
Costa[22]	..	..	..	1	1	0
Allan[23]	2	2	0	..	..	..
Dufour and Thiers[24]	1	1	0	..	..	..
Rouget[25]	..	..	..	1	1	0
Dessy and Marotta[26]	1	1	0	..	..	..
Laval[27]	1	1	0	..	..	..
Sewell[28]	..	..	..	1	1	0
Marchoux[29]	2	2	0	..	..	..
Roux and Tribondeau[30]	2	2	0	1	1	0
Gaide and Mouzels[31]	4	4	0	..	..	..
Maxwell[32]	10	10	0	..	..	..
Hutcheson[23]	11	11	0	..	..	..
Thompson[34]	7	7	0	..	..	..
Couteaud[25]	..	..	..	2	2	0
Mallannah[36]	..	..	..	1	1	0
Total	110	99	11	16	16	0

such as these eleven in which the patients were moribund should be excluded from consideration in passing on the value of a given treatment. It can be said that any amebic dysentery patient who is not moribund can be "cured" by emetin.

The rapidity of the improvement is also noteworthy. It has been customary to treat amebic dysentery for weeks or months often with little change in the symptoms. In these reported cases recovery has for the most part been so rapid as to be little short of marvelous. The effects of the treatment have been marked from the first injection; blood and mucus disappear from the stool, pain is entirely relieved, the number of stools is greatly reduced, and the patient gains rapidly in weight. In many of these reported cases the patients have obtained complete relief from their dysenteric symptoms within a week, after the use of very small amounts (from 2 to 3 grains) of emetin. In other cases, the disease has proved more resistant, and has required a longer course of treatment or the use of larger amounts of emetin to effect a "cure."

2. Is the emetin treatment effective in hepatitis? In sixteen cases reported by nine observers, sixteen patients, or 100 per cent., were "cured."

The use of the word "cured" in these cases is less objectionable than is usually the case, for not only have the patients obtained complete relief from the symptoms of the abscess, but the discharge has ceased, the wounds have healed, and in one or two cases[14] a subsequent Roentgen examination has indicated that the abscess cavity had entirely disappeared. Moreover, these cases up to date have shown none of that tendency to recurrence which is so frequent after surgical treatment and evacuation. Several of these cases were treated before suppuration occurred[7, 8] several after the formation of pus and without evacuation,[36] and several after evacuation of pus by rupture into the lung or the intestine.[15, 22] Several of these cases had been treated surgically and by the use of other drugs, such as quinin irrigations into the abscess cavity, without effect, and were considered as rather hopeless cases before emetin was tried.[28]

The uniform success reported in these cases is quite remarkable, since the mortality following liver amebic abscess has, in the past, been high, having been estimated at from 80 to 30 per cent., depending on the method of treatment. Müller[37] has recently reported twenty-four cases treated surgically, in which six patients (25 per cent.) died. This may be taken as representing the average result of good surgical treatment, and it is clear that the use of emetin in this condition is a therapeutic triumph.

3. Are these cases permanently cured? Amebic dysentery is notorious for its tendency to relapse. Patients recover only to develop a fresh exacerbation or perhaps a liver abscess after weeks or months of apparent freedom from the disease. Moreover, the patients that have been treated by emetin have in many cases continued to harbor amebas in the feces. Baermann and Heinemann used enormous doses of emetin without succeeding in finally eradicating the amebas from the feces although the patients were quite well. I have, myself, observed the same result in several cases in which the success of the emetin treatment was unquestionable. This result might, as a matter of fact, be expected, for no matter how poisonous the emetin in the circulation may be to the amebas in the tissues, the amebas in the lumen of the intestine, being to all intents and purposes outside of the

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10. Baermann and Heinemann: Die Behandlung der Amoebendysenterie mit Emetine, München. med. Wchnschr., 1913, lx, 1132 and 1210.

11. Lyons, Randolph: The Treatment of Amoebic Dysentery with Subcutaneous Injections of Emetine Hydrochlorid, THE JOURNAL A. M. A., April 19, 1913, p. 1216.

12. Low: The Administration of Emetine by Mouth in Amoebic Dysentery, Brit. Med. Jour., 1913, i, 1369.

13. Chauffard: Abcès dysentérique du foie ouvert dans les bronches; guérison rapide par l'émétine, Bull. et mém. Soc. méd. d. hôp. de Paris, 1913, Series 3, xxxv, 630.

14. Chauffard: Dysentérie amibienne chronique, guérison rapide par la cure d'émétine, Bull. et mém. Soc. méd. d. hôp. de Paris, 1913, Series 3, xxxv, 753.

15. Flandin and Dumas: Gros abcès dysenterique du foie ouvert dans les bronches; guérison obtenue par le traitement chirurgical et les injections de chlorhydrate d'émétine, Bull. et mém. Soc. méd. d. hôp. de Paris, 1913, Series 3, xxxv, 599.

16. Dopter: Discussion of case of Flandin and Dumas (Footnote 15).

17. Job and Levy: Un cas de dysentérie amibienne chronique, traité par l'émétine, Bull. et mém. Soc. méd. d. hôp. de Paris, 1913, Series 3, xxxv, 988.

18. La Cava: La chemioterapia della disenteria da amebe; due casi curati col cloridrato de ametina secondo il metodo di L. Rogers, Malaria, etc., Roma, 1913, iv, 189.

19. Destefano: Dos casos de disenteria tratados con el metodo de Rogers, Semana méd., 1913, xx, 1189.

20. Valence: Rectite dysentérique et chlorhydrate d'émétine, Bull. méd., Paris, 1913, xxvii, 579.

21. Verteuil: Note of a Case of Amoebic Dysentery of Three and a Half Years' Duration, Rapidly Cured by Injections of Emetine Hydrochloride, Lancet, London, 1913, i, 1803.

22. Costa: Abcès amibiens du foie, partiellement ouverts dans les bronches et dans l'intestin, guérison par les ponctions et les injections d'émétine, Bull. et mém. Soc. méd. d. hôp. de Paris,1913, Series 3, xxxv, 746.

23. Allan, William: The Emetin Treatment of Amebic Dysentery, THE JOURNAL A. M. A., March 1, 1913, p. 664.

24. Dufour and Thiers: Dysentérie chronique amibienne traitée par le chlorhydrate d'émétine, Bull. et mém. Soc. méd. d. hôp. de Paris, 1913, Series 3, xxxv, 827.

25. Rouget: Abcès amibien du foie traité par la ponction evacuatrice et les injections sous-cutanées d'émétine; guérison, Bull. et mém. Soc. méd. d. hôp. de Paris, 1913, Series 3, xxxv, 809.

26. Dessy and Marotta: Contribucion al tratamiento de la enteritis disenterica y del abcesso del higado (amibiano) con el metodo de Rogers, Semana médica, 1913, xx, 797.

27. Laval: A propos du traitement de la dysentérie par les injections de chlorhydrate d'émétine, Bull. méd., Paris, 1913, xxvii, 171.

28. Sewell: Liver Abscess and the Emetine Treatment, Jour. Roy. Army Med. Corps, June, 1913, p. 700.

29. Marchoux: Le chlorhydrate d'émétine dans la dysentérie amibienne, Bull. Soc. path. exot., 1913, vi, 313.

30. Roux and Tribondeau: Action de l'émétine dans quelques formes speciales d'amibism et par analogie avec d'elles dans la syphilis, Bull. Soc. path. exot., 1913, vi, 424.

31. Gaide and Mouzels: Note sur le traitement de la dysentérie amibienne par l'émétine, Bull. Soc. path. exot. 1913, vi, 491.

32. Maxwell, J. P.: The Use of Emetine Salts in the Treatment of Amoebic Dysentery, China Med. Jour., 1913, xxvii, 116.

33. Hutcheson: Results in Thirteen Cases of Dysentery Treated with Emetine, China Med. Jour., 1913, xxvii, 243.

34. Thompson: The Treatment of Dysentery by Injections of Emetine Hydrochloride, Dublin Jour. Med. Sc., Aug. 3, 1913, p. 102.

35. Couteaud: La chirurgie, l'émétine et l'epeca dans le traitement des abcès du foie, Bull. et mém. Soc. de Chir. de Paris, 1913, xxxix, 941.

36. Mallannah: Emetine and Liver Abscess, Indian Med. Gaz., 1913, xlviii, 331; Brit. Med. Jour., 1913, i, 1206.

37. Müller: Die Diagnose und Behandlung des dysenterischen Leberabszesses, Arch. f. Schiffs- u. Tropen-Hyg., 1913, xvii, 289, 335.

body, would not be subjected to its action. Now if amebas are still present in the patient's intestinal canal, what is to prevent a reinfection, even if every ameba in the tissues is killed? To this question no satisfactory answer can be given at present, but there are several points that may be noted. In the first place the observers who have so far reported these cases have not stated that *Entamoeba histolytica* was found in the stools after the emetin treatment. The fact that patients may harbor a double infection of *Entamoeba histolytica* and *Entamoeba coli* should not be forgotten. *Entamoeba coli* is a harmless commensal. We should not expect to remove it by the emetin treatment, nor is its continued presence of any significance. As I have satisfied myself in at least three cases, however, *Entamoeba histolytica* has remained, chiefly in the encysted form, in the feces, after treatment by emetin had dissipated all dysenteric symptoms, and after rectal examination had demonstrated that the ulcers previously present in the rectum were healed. Further, Walker's results[38] indicate that in such cured cases of amebic dysentery the patients continue to harbor *Entamoeba histolytica* for years and in fact become carriers of this infection. Thus Walker says, "None of the twenty experimentally infected or of the nine naturally infected men has ceased to be a 'carrier' of the *Entamoeba histolytica*, although some of them have been under observation for over two years."

The actual final results of the emetin treatment may prove to be much more satisfactory than these theoretical considerations would lead us to expect. For while these patients of Walker's continued to harbor *Entamoeba histolytica* for these long periods, he says specifically in the protocols of his experiments that these men developed no symptoms of dysentery after the primary attack had been cured by the administration of ipecac. In other words, it has been demonstrated that a man may continue to pass *Entamoeba histolytica* in his stools as long as two years and four months without ever developing any symptoms of dysentery. It would appear from this observation that, contrary to general belief, a man who has entirely recovered from amebic dysentery may be protected, in some way, against reinfection. The relapses that have been so frequent in this disease in the past may have been due to the fact that all the amebas in the tissues were killed in but few cases, and that the few remaining amebas subsequently caused the relapse. The final proof as to whether or not patients treated by emetin will remain "cured" can be determied only by observing these cases for a number of years. None of the cases so far reported fulfil this requirement. Through the courtesy of Lieut. Edgar F. Haines of the Medical Reserve Corps, however, I am enabled to report two cases in which the patients have remained well for periods of five and nine months. Lieutenant Haines treated these cases, and very kindly sent me the following notes:

Case 1.—Miss M., aged 34, school teacher, who had been in the tropics five years, in 1909 had had amebic dysentery and was treated at that time by quinin irrigations, since 1909 has had three or four attacks, each lasting from four to six days. In the latter part of February, 1913, she had another attack of diarrhea, which had lasted nearly two weeks when I was called to see her. Again she asserted that this was due to eating a certain fruit, which, she said, always brought on her trouble. Examination of the stools showed the presence of *Entamoeba histolytica* in large numbers. Emetin treatment was begun at once, ½-grain doses being used, one dose night and morning. Five grains were used in this case all told. All dysenteric symptoms cleared up immediately. Patient gained weight and was looking much better on my departure from the Philippine islands, April 19, 1913. Word received from this patient in August stated that she had had no recurrences and was in excellent health. Patient was up and about during treatment.

Case 2.—Mrs. H., aged 26, who had been in the tropics two and one-half years, and had been absolutely well during this time, in September, 1912, was taken with abdominal pains and frequent stools containing blood and mucus. She lost 10 pounds and became very anemic. On account of station, no microscopic examination of feces was made at this time. Ipecac was given with moderately good results. Pain ceased and stools became practically normal. In October, 1913, the patient had another attack similar to the one stated above; examination of the stools at Tien Tsin, China, failed to show the presence of amebas. It was advised that bismuth subnitrate be used; poor results were obtained from this treatment. For two or three days there would be an apparent improvement, then a relapse to former condition. This kept up until January, 1913, with periods of remission. By the latter part of January the patient had lost nearly 20 pounds, looked very anemic, was exceedingly weak, and was having three or four bloody stools a day. Examination of the stools made by Lieut. T. D. Woodson at the Division Hospital, Manila, P. I., and confirmed by myself, showed the presence of *Entamoeba histolytica* in large numbers. The patient was admitted to the Division Hospital, Manila, about Feb. 1, 1913. She could not retain ipecac. Bismuth subnitrate was used with no results. Emetin hydrochlorid (Merck) was begun about February 10, used hypodermically in ¼-grain doses, two doses a day, night and morning, until 3 grains had been taken. At the end of this time an opposite condition existed from a dysenteric one. The patient was up and about the third day after emetin treatment was stopped, and left the hospital on the fifth day. There was a slight recurrence one week after leaving hospital. Two ½-grain doses of emetin were given. All symptoms cleared up immediately. There has been no relapse since, up to the end of October (date of report). Weight is normal, no anemia and no pain are present, the stools are normal, and the patient feels fine. A total of 4 grains was used.

It may therefore be said that there is at least a possibility that some of the "cures" reported as a result of the emetin treatment of amebic dysentery may be permanent.

4. Have there been any ill effects following the emetin treatment?

In most of the reported cases the drug has been given hypodermically. Rogers[8] began by giving ⅓-grain doses, but rapidly increased them to ½ or ⅔ grain. These doses produced no ill effects. A number of observers have given as high as 1 grain at a single injection, with no bad systemic results, and Allan[23] on one occasion administered 4 grains of emetin hydrochlorid at a single dose. This caused nausea for several hours with vomiting once.

Baermann and Heinemann[10] say: "When the subcutaneous dose was increased from 120 to 150 mg. (from 2 to 2½ grains) in daily repeated injections, indisposition, weariness and loss of appetite were experienced. These phenomena disappear in from twenty-four to forty-eight hours after the use of emetin." Almost all of the observers who have used the larger doses have reported that they were painful. Intramuscular injections have been more painful than subcutaneous.

Intravenous injections have also been used. Rogers[39] reported the use of 1 grain intravenously with no bad results. Baermann and Heinemann say:

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[38] Walker, E. L.: Experimental Entamoebic Dysentery, Philippine Jour. Sc., 1913, viii, Sec. B., 253.

[39] Rogers: The Rapid and Radical Cure of Amoebic Dysentery and Hepatitis by the Hypodermic Injection of Soluble Salts of Emetine, Therap. Gaz., 1912, Series 3, xxviii, 837.

> Intravenous injection of from 60 to 200 mg. caused no serious disturbance but slight dizziness, disturbance of vision and slight vomiting. When from 300 to 400 mg. were injected, we observed very serious symptoms, which began in from two to five minutes after the injection and consisted of general vascular paralysis, severe dyspnea, loss of consciousness with vomiting and passage of thin stools and great slowing of the pulse. We estimated the maximal intravenous dose as 250 mg. per 60 kg. of body-weight.

Since emetin, by many observers, has been regarded as a more or less harmless drug, and since I am of the opinion that the doses used by some and particularly by Baermann and Heinemann are too large, I wish to point out the possible danger in not using due caution in the use of this very potent remedy.

Sollmann,[40] with regard to ipecacuanha, says:

> Central symptoms make their appearance after large doses. Paralytic symptoms set in, among the earliest in mammals being vasomotor paralysis with fall of blood-pressure. This is further aided by weakening of the heart-muscle due to its direct muscle action. . . . Some persons are so sensitive to the local action of ipecac that the opening of a jar at a distance of several feet will produce violent sneezing and discomfort. . . . Cephaelin is far more emetic, *but emetin is much more depressing.*

Capt. Henry J. Nichols of the Medical Corps and I have found that 2.5 mg. per kilogram of emetin hydrochlorid intravenously is the minimum fatal dose for rabbits, while one rabbit died as the result of 20 mg. per kilogram administered subcutaneously. The rabbits to which the drug was given intravenously died in a few seconds, apparently as the result of centric paralysis. The subcutaneous and intramuscular injection of large doses caused considerable local irritation and even necrosis, particularly of the muscular tissue. I have found that 10 mg. of emetin hydrochlorid per kilogram subcutaneously on two successive days is a uniformly fatal dose for white rats. It would appear from these observations that the doses proposed by Baermann and Heinemann are far too large, and that if the drug is administered in such doses, fatalities will soon occur which will unjustly discredit the use of emetin. Furthermore, these tremendous doses appear to be entirely uncalled for, since success is commonly obtained in the treatment of amebic dysentery and hepatic abscess with doses not exceeding 1 grain (64 mg.) hypodermically. As has already been pointed out, it cannot be expected that the amebas in the stools will disappear even as the result of such heroic doses, and this should no longer be attempted.

5. What is the best method of treating amebic dysentery and hepatitis by emetin?

Theoretically, the intravenous method offers certain advantages, such as the prompt introduction of the drug into the circulation, and the possibility of accurately standardizing the dose. An irritating drug like emetin is of necessity slowly absorbed when injected subcutaneously. On the other hand, hypodermic medication is easier both for patient and physician, and, what is more important, safer. After seeing rabbits die immediately after intravenous injections of comparatively small amounts (from 3 to 5 mg.) of emetin hydrochlorid, I should hesitate before administering even 1 grain intravenously in a human case. If given to one of the patients so susceptible to the effects of ipecac mentioned by Sollmann, such a treatment would not improbably be followed by death. Several successful cases are reported[12, 39] in which the emetin was given by mouth. I have treated one case by this method without obtaining the striking results that follow the hypodermic use of emetin. The hypodermic method is therefore recommended.

Emetin hydrobromid and hydrochlorid have both been used, but the burden of evidence appears to favor the hydrochlorid, which is more soluble. This salt is on the market in the form of powder and ampules. The former the physician can prescribe to be put up in capsules, pills or in solution with sterilized water when indicated.

The customary procedure has been to administer doses varying from ⅓ grain to 1 grain daily for about ten days. Inasmuch as the larger doses are distinctly irritating, it appears preferable to me to give ⅓ grain three times a day for about ten days. In this manner a large amount of the drug can be administered without serious inconvenience of any kind. Vomiting has never been reported from the use of emetin in this dosage, *and the patients feel no general disturbance. On the* contrary, they usually experience the first sensations of well being that have been enjoyed for months. After such a course if the patient is clinically cured, the treatment should be suspended, and the patient's stools watched for *Entamoeba histolytica.* Any recurrence of dysenteric symptoms should be the signal for the prompt initiation of a second course of treatment. If the patient's stools have not become normal under this treatment, larger doses may be employed. Emetin at present is quite expensive, costing about fifty cents a grain.

Cases of amebic liver-abscess should be treated with emetin in the same manner and about the same dosage. If results are to be satisfactory, the diagnosis must be certain, for while emetin appears to be a true specific, and directly toxic toward amebas, its use in abscesses of bacterial origin will be unavailing.

Moreover, in cases of abscess with large accumulations of pus, although the amebas will be killed by the emetin, it cannot be expected that this pus will be absorbed. It is believed, therefore, that in case an amebic abscess has not ruptured spontaneously into the lung or intestine, exploratory puncture should be practiced. If pus is found, and amebas are demonstrated, the opening should be enlarged sufficiently to permit the abscess to be evacuated, and emetin should at once be administered. Since experience has shown that the emetin produces a prompt cessation of discharge, and completes the cure in a few days, it is no longer necessary to perform operations such as the best surgical practice now requires in order to secure free drainage. All that is necessary is to secure an evacuation of the pus present and to secure drainage for a few days. Possibly the old method recommended by Manson,[41] which has now given way to more complete surgical operations, may be advantageously reintroduced.

6. The treatment of carriers.—As previously pointed out, a large percentage of the patients with amebic dysentery so treated become chronic carriers of encysted amebas. In addition to the fact that, so far as we know at present, they are subject to reinfection, it seems probable that these cases are a menace to the community. Walker says:

> In consequence of the extremely feeble resistance of the motile *Entamoeba histolytica* to external influences, it is not considered that cases of acute entamebic dysentery are an important source of infection. On the other hand, it is believed that chronic and latent cases of this disease are the

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[40] Sollmann: Text-Book of Pharmacology, p. 309

[41] Manson: Tropical Diseases, Ed. 4, p. 516.

chief, if not the exclusive source of infection in endemic regions, first, because of their relative prevalence; secondly, because this condition persists indefinitely; thirdly because their infection is unsuspected, and fourthly, because these "carriers" are constantly passing in the stools, often in enormous numbers, the resistant encysted stage of *Entamoeba histolytica.*

It is apparent that it is desirable for both personal and public reasons to rid these carriers of their infection. The emetin treatment fails to do this. Chauffard[40] attempted to destroy these amebas by giving an irrigation consisting of 100 mg. of emetin hydrochlorid dissolved in a liter of water. The result was very bad, being followed in the next twenty-four hours by fourteen liquid stools containing mucus and blood. Chauffard apparently considered this as a recrudescence of the previously cured dysentery, but it seems much more probable that these dysenteric symptoms were due to the irritating effect of the emetin. Emetin, therefore, should not be used for this purpose. My own investigations have shown that both quinin and silver nitrate are powerful amebacidal agents. The reason that irrigations with these drugs have usually failed in the past to cure dysentery has been that they did not reach the amebas in the tissues. Since, in the cases under consideration, the amebas in the tissues have all been killed by emetin, it seems probable that these carriers may be rid of their infection by repeated high irrigations of quinin and silver nitrate prepared and given as described by authorities on the treatment of amebic dysentery. If, as Walker maintains, dysentery is propagated almost solely by these carriers, careful observation and treatment of each case in this manner will not only eliminate the chances of recurrence in that individual, but, in the course of a few years, will greatly reduce the general incidence of this disease or perhaps even eradicate it.

7. *The use of emetin in other diseases.*—The results of the use of emetin in amebic disease have been so marvelous that there has been a natural tendency to extend this treatment to other diseases. Milian[42] suggested that since salvarsan is a powerful specific against syphilis, and has also been found to cure amebic dysentery, perhaps the reverse might be true and emetin might be a valuable drug in syphilis. He reported several cases of syphilis treated by emetin with more or less equivocal results. Roux and Tribondeau[20] also treated a case of syphilis with negative results. Experiments performed in this laboratory by Captain Nichols and myself have shown that intravenous injections of large doses of emetin hydrochlorid have no effect on the spirochetes in the chancre of a rabbit experimentally infected with syphilis. Captain Nichols has found that similar injections have failed to protect rabbits from developing rabies. My original experiments showed that no effect could be expected from emetin in bacillary dysentery. On the other hand, these experiments indicated that emetin killed one of the free living paramecia *in vitro*, and there is a possibility that this drug might be useful in dysentery caused by *Balantidium coli;* but so far as I am aware this possibility has not been tested clinically. Experiments, which I have performed in this laboratory, indicate that emetin is very slightly toxic for certain trypanosomes, but that the course of the infection cannot be influenced in experimental animals by anything less than fatal doses. Its use in such infections is therefore not very promising. It appears, therefore, that emetin is highly specific for amebas and possibly some other protozoa, and has little or no action against bacteria or spirochetes.

CONCLUSIONS

1. Emetin is a true specific in amebic dysentery and hepatitis, and the results obtained by its use compare very favorably with the results obtained with salvarsan in syphilis.
2. The hypodermic use of the hydrochlorid salt is the preferred method of treatment.
3. A large percentage of the cases so treated continue to harbor *Entamoeba histolytica* (often in the encysted and most dangerous form) in the feces for some time.
4. While in view of this fact it is impossible to state at present that patients treated by emetin will remain permanently cured, yet the prospects of obtaining permanent cures by this method are encouraging.
5. The presence of a considerable number of these chronic ameba carriers constitutes a sanitary menace to the community.
6. It is possible that the amebas may be removed from these carriers by a course of irrigations of quinin or silver nitrate.
7. Experiments have failed to show that emetin possesses any marked therapeutic virtue in bacillary dysentery, syphilis, rabies or trypanosomiasis.

Addendum.—Since this article was written, James[43] has examined the *Amoeba histolytica* in the stools of cases of amebic dysentery before and after the use of emetin. The specimens were fixed and stained. Marked degeneration of the nucleus and cytoplasm of the amebas was demonstrated after the use of emetin. This constitutes additional evidence as to the specific action of emetin on *Entamoeba histolytica.*

Dopter[44] has reported five cases of amebic hepatic abscess and forty-six cases of amebic dysentery, all successful. He notes that:

1. Emetin is of no use against lesions caused by other parasites.
2. It does not prevent relapses. Of the 46 cases, 10 have already relapsed. Two cases in 30 days, 3 after 3 months, 5 after 4 to 6 months. These relapses yield easily to a second treatment of emetin.
3. Abscess of liver may also appear after an apparent cure by emetin without fresh intestinal symptoms.
4. Emetin, so specific for vegetative amebas, appears to be devoid of power against the cysts.

Major Hartsock, M. C.,[45] reports three further cases of amebic dysentery also successfully treated by emetin hydrochlorid.

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[42] Milian: Le 606 est un specifique puissant de la dysentérie amibienne, et l'émétine peut-être est un medicament antisyphilitique Bull. et mém. Soc. méd. d. hôpitaux de Paris, 1913, Series 2, xxxv, 626.

[43] James: Am. Jour. Tropical Dis. and Preventive Med., 1913, i, 431.

[44] Dopter: Bull. de l'Acad. de méd., Paris, 1913, lxx, 442.

[45] Hartsock: Mil. Surgeon, 1913, xxxiii, 517.

Trypsin and Amylopsin in Malaria.—According to Major F. W. Lambelle, the experience in China and India is that quinin is not a specific for malaria in all its forms. In his statement in *Public Health Reports,* Jan. 3, 1914, Lambelle states that patients frequently return to the hospitals, deaf from cinchonism, still ill from the fever, and showing traces of parasites in the peripheral blood. Lambelle, therefore, has used trypsin and amylopsin in the treatment of these cases, according to the suggestion of Beard. The preparations of these drugs are sterilized, and injections are made into the muscles of the buttock. The injection is given slowly, and some swelling remains for from twelve to twenty-four hours. In the cerebral type of fever, the headache vanishes, the skin becomes moist and the temperature falls in a few hours. A single injection is said to clear the peripheral blood of parasites; three injections, at intervals of about four days, are in most cases necessary to effect a cure.

THE FUNCTIONAL METRORRHAGIAS

THEIR NATURE AND CONTROL[*]

ARNOLD STURMDORF, M.D.
Professor of Gynecology, New York Polyclinic Medical School; Associate Surgeon, Woman's Hospital
NEW YORK

In the entire range of our daily gynecologic experience there is probably not another manifestation with which we are more familiar and of which we understand less than a bleeding uterus. Time-honored dogma has so habituated us to accept every concomitant pathologic element as the immediate and direct cause of the bleeding, that we have become entirely oblivious to the existence and significance of certain intrinsic intermediary factors that essentially link cause to effect and reveal the "why and how" of the uterine hemorrhage in logical sequence.

When a bleeding uterus presents a small fibroid, we seek no further for an explanation, and yet no one has definitely explained why one uterus harboring a fibrous nodule bleeds excessively, while another bearing enormous masses of a similar nature does not bleed at all. Still less do we know why there is bleeding from those uteri that present no palpable evidence of any causative factor whatsoever, and lastly, we know nothing of why and how the uterus bleeds during normal menstruation.

This is a very extensive theme, and the obvious limitations of the moment prompt me to plunge at once to the practical core of our subject by assuming that we are summoned to control a case of excessive uterine hemorrhage.

Our examination of the patient may reveal what we interpret as a cause for the bleeding, either pelvic or systemic; on the other hand, the most painstaking investigation may fail to develop any such cause, and these are the cases specifically embodied in the title of this paper. In either event, whether the cause of the hemorrhage is apparent or not, we promptly inaugurate the same venerable therapeutic triad, ergot, packing, and lastly but inevitably, the curet. The bleeding may cease and again it may not, in which event we shall probably renew and repeat our efforts along the same lines, ringing the changes among the alluringly named uterine styptics, until the persistence and gravity of the hemorrhage leaves us no choice but hysterectomy. This, of course, conquers the hemorrhage and removes all the evidences of our therapeutic impotence with the bleeding organ; but our clinical conscience may be much disturbed when the pathologist quietly informs us that we have deprived our patient of a normal uterus.

Two questions will naturally present themselves:

1. Why did this uterus bleed so persistently?
2. Why have we failed to control the bleeding?

The current literature teems with explanations. Every anatomic element of the female generative organs has been charged and acquitted as the causative factor: the endometrium, the adnexa, the myometrium and the uterine blood-vessels. We have scraped these uteri for endometritis and found only the hitherto misinterpreted morphologic changes in the endometrium, normal to the different stages of the menstrual cycle. We have removed diseased adnexa — and sometimes normal ones — and the bleeding continued or recurred. We have had fibrotic and endarterial degenerations in the myometrium of these uteri demonstrated, only to find the same alterations in non-hemorrhagic senescent uteri, and thus, all along the line, one after another of the alleged etiologic factors failed to exhibit that uniform synchronism with the hemorrhage essential to establish a direct relationship of cause and effect, so that, in the present state of our knowledge and according to all tenets of clinical nomenclature, the title of functional metrorrhagia is justified.

These cases occur most frequently, but not exclusively, at the two extremes of menstrual life; and while their diagnosis obviously rests on the exclusion of every demonstrable exciting factor, such an exclusion is not always possible under ordinary conditions, for there exist fundal polypi or short pediculate submucous myomas in the cornual recesses of the uterine cavity, and more important, certain forms of adenocarcinoma limited to the upper endometrial zone, the recognition of which is made possible only by a vaginal section of the cervix or, in other words, by a vaginal explorative hysterotomy.

To establish the functional nature of the condition is to establish a favorable prognosis; for, notwithstanding the persistence and gravity of the hemorrhage, it is well to bear in mind that most of these patients will tend toward recovery after a more or less protracted period—provided that during this period, which may last several months, the bleeding can be held within safe limits. It is axiomatic that every clinical manifestation represents a normal function perverted or diverted, and every therapeutic effort must be based on the normal mechanism of that function. Coagulation is Nature's universal hemostatic, and every effort to control bleeding must be an effort to induce coagulation.

I have already indicated that these hemorrhages present a perverted menstruation, and any one who has ever attempted, experimentally or otherwise, to check a normal menstrual bleeding will fully realize the therapeutic difficulties that confront us in the control of these abnormal types. It is a significant fact that, while the incoagulability of normal menstrual blood has been noted since earliest times, the identical incoagulability characterizing the cases under discussion has escaped the attention of all observers; and yet this same incoagulability in perverted protracted form embodies the etiology and dominates the treatment of the hemorrhage. The hitherto accepted teachings, attributing the absence of clotting in menstrual blood to the presence of alkaline mucus secreted by the endocervical glands, is no longer tenable, for no such admixture inhibits coagulation in other mucus-secreting areas.

It would lead far beyond the practical object of this paper to enter into the complex and important elucidation of this hematologic problem, for the details of which I must refer those specially interested to my former publications on the subject.[1] It must suffice here to state that the endometrium, during menstruation and in the hemorrhagic cases, receives normally coagulable blood from the general circulation and sheds this blood in a non-coagulable state. This loss of coagulability is not due to the absence or deterioration of any element essential to coagulation, but to the presence of an inhibiting substance that is periodically secreted by the corporeal endometrium, from which it may be expressed. Such expressed endometrical juice is capable of inhibiting coagulation in any normal blood.

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[*] Presented before the Medical Society of the County of New York, Dec. 22, 1913.

[1] Sturmdorf, Arnold: Metrorrhagia and Uterine Fibrosis, Am. Jour. Obst. and Dis. of Women, 1910, lxi, No. 6; Studies on a Local Hematologic Factor in the Causation of Uterine Hemorrhage, New York State Jour. Med., October, 1911.

The endometrium is activated to the secretion of this inhibiting substance by a hormone generated in the graafian follicles. To the present time we have not succeeded in isolating this substance, nor have we discovered its specific antagonist, but we have learned to circumvent it by effectual measures. These measures must be focused on two objective points: the regulation of the systemic blood-pressure and the inhibition of the endometrial hyperactivity.

Whenever and wherever a copious hemorrhage occurs, Nature promptly diminishes the force and volume of the general blood-current by relaxing the cardiovascular channels. Even the normally menstruating woman regularly presents a drop of from 10 to 15 points in blood-pressure at the terminal stage of her menstrual period. The metrorrhagic cases, on the other hand, especially the preclimacterics, present a persistent high pressure, ranging from 150 mm. of mercury upward.

The indication for vasodilators is obvious. Under the guidance of a reliable pressure apparatus, aconite, nitroglycerin and especially atropin should be administered until the vascular hypertension is reduced to normal. Opium is a sovereign adjuvant and is indispensable in the cases characterized by cerebral erethysm and general restlessness, which, in itself, is productive of circulatory pressure. I mention ergot in order to condemn its use in the most emphatic terms. It does not and cannot control these metrorrhagias: its specific influence on the musculature of the puerperal uterus is never realized in the non-gravid organ, while its recognized augmentation of the general vascular tension only tends to increase or prolong the bleeding. The same applies to the use of hydrastin and cotton-root bark, while stypticin (cotarnin hydrochlorid), styptol (cotarnin phthalate) and all the later synthetic oxytoxics are absolutely inert.

I cannot enter on the outlines of the local treatment without a word of warning against the prevalent indiscriminate use of the curet, which, except for diagnostic purposes, has no place in our therapeutic armamentarium for this form of hemorrhage. The curet should never be used without an obvious indication, and the existence of such an indication places the case outside of our present category, for, as already stated, these are purely functional cases, with no organic lesions and a normal endometrium, the laceration of which by the curet only augments the hemorrhage.

Two topical medicaments, the correct application of which fulfil the local indications, correcting the perverted function without destroying it — in other words, moderating the bleeding to the rhythm and proportions of normal menstruation without destroying the endometrium — will be found in pure acetone and 16 per cent. dilution of liquor formaldehydi. Either of these agents is cautiously but copiously introduced into the uterine cavity by means of an intra-uterine syringe. The syringe holds ½ to 1 ounce. The uterine end of the cannula is wrapped in a thin layer of sterile gauze and thus introduced into the uterine cavity to the fundus. A free return flow must be assured by the patency of the cervical canal, and the vagina protected from the irritating fluid by proper lubrication. The syringe is slowly emptied of its contents and carefully withdrawn in such a manner as to leave its saturated wrapping in contact with the endometrium for twenty-four hours. A daily repetition of this procedure is essential.

The hemorrhage does not cease at once, but is steadily reduced until a slight seepage, which may last several weeks, during which time treatment must be persisted in, inaugurates a normal intermenstrual period.

Should this method fail, a few applications of the D'Arsonval spark, in the manner recently adopted for the treatment of vesical papillomas, will yield the desired result.

Such, in bare outline, are the principles that govern the control of these hemorrhages. They involve innumerable details which are necessarily omitted here. We must always bear in mind that we are dealing not merely with a bleeding uterus, but with a bleeding woman. The management of these patients offers the most legitimate field for so-called medical gynecology, and their successful control will often tax the skill, the patience and the therapeutic resources of the most experienced.

It is five years since I began this study and four years since my first publication on the subject. Much has come to light during that period, yet more remains to be solved. Nevertheless, at this writing I venture to assert that no pathologist will ever again have occasion to report that I have deprived a woman of a normal uterus for the control of grave functional metrorrhagia.

51 West Seventy-Fourth Street.

NEOSALVARSAN FROM THE FRENCH POINT OF VIEW

B. BARKER BEESON, M.D.
Assistant in Cutaneous Pathology, Rush Medical College
CHICAGO

Since this drug is rapidly superseding salvarsan, it is essential for us to become fully conversant with it. For a number of valuable observations regarding neosalvarsan we are indebted to the French. It shall therefore be my aim to make a brief summary of these.

The usual initial dose is 0.45 gm., although some prefer to begin with 0.3 gm. Ehrlich and Hata have advised that the dose of salvarsan be fixed at 0.01 gm. per kilogram of body-weight. Since neosalvarsan contains approximately 21 per cent. of arsenic and salvarsan 31 per cent., the dose of the former can be set at 0.015 gm. per kilogram, as Leredde has suggested. Three or four injections constitute a series. It has been shown that at least four days are required for the elimination of an intravenous injection of neosalvarsan. Most French clinicians administer injections seven or eight days apart.

If the first dose is well borne and there are no untoward symptoms, such as gastro-intestinal disturbances or headache, one could increase the next dose by 0.15 gm. This can be continued so that by the fourth injection the patient will be receiving 0.9 gm. Ravaut says that this figure should on no account be exceeded, but others, as Darier,[1] sometimes give 1.05 gm. One can also find those who mention larger doses, among them Leredde,[2] who, in cases of general paralysis and tabes dorsalis, has given a series of three injections of 0.9 gm., 1.2 gm. and 1.5 gm., respectively.

The solvent in most general use is distilled water. It must be freshly prepared and an apparatus composed entirely of glass is advised in order to avoid an impure product. Levy-Bing[3] advises the use of freshly distilled water, to each liter of which 1 c.c. of a normal solution of sodium carbonate has been added. In an exhaustive article, Emery[4] says that the apparatus employed for distillation should be made of Jena glass. Crystal, he says, is rich in lead silicate, ordinary white glass contains silicate of sodium, while potassium silicate is to be found in Bohemian glass. Jena glass is recommended as being free from these impurities.

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[1] Darier: Bull. Soc. franç. de dermat. et de syph., 1912, p. 383.

[2] Leredde: Bull. Soc. franç. de dermat. et de syph., 1912, p. 428.

[3] Levy-Bing: Bull. Soc. franç. de dermat. et syph., 1912, p. 465.

As regards its administration, shall it be given in concentrated solution? It has been my good fortune to see and follow a large number of cases thus treated in Ravaut's service at Hôpital St. Louis as well as with Levy-Bing at Maison St. Lazare, and from the results obtained I have no hesitation in recommending it. Ravaut,[5] who was the first to give it in this form, administers neosalvarsan up to 0.9 gm. doses in 10 c.c. of freshly distilled water and says that this amount of water may be further reduced.

His technic is as follows: The required amount of distilled water is poured into a small glass container and the neosalvarsan added. As soon as solution has occurred the liquid is drawn up into the glass syringe, which is equipped with a special aspirator-filter. The latter is detached. the needle put on and introduced into the selected vein, and, as soon as its entrance is announced by the outpouring of blood into the syringe, the dose is given. The whole operation is easily accomplished in about one minute. At St. Lazare the desired amount of neosalvarsan is dissolved in 25 c.c. of distilled water.

The intravenous route is preferred and in the great majority of cases is the one selected, but the intramuscular method is also followed by some. Balzer[6] of Hôpital St. Louis has used it extensively as follows: Neosalvarsan 0.3 gm., suspended in 1 c.c. of oil and the whole enclosed in a glass ampule, is the form in which the drug is furnished. The muscles of the lumbar region are best suited for injection by this method. The patient reclines face downward, a needle is inserted into the muscle on each side of and close to the spinal column, just above the iliac crest. The required dose is drawn up into the syringe, which is then attached to the needle, and the injection is made. One should not omit waiting at least one minute after the introduction of the needle before proceeding with the injection, for should bleeding occur the needle must be withdrawn and reinserted. This is done, of course, to obviate embolism, which would result should any of the oily mixture be injected directly into a blood-vessel. The gluteal region may be utilized and one-half the dose injected into each buttock in a similar manner. One such injection can be given every eight days, and six would constitute a series. Balzer has also employed, in a few cases, a mixture of neosalvarsan 0.3 gm., and gray oil 0.05 to 0.07 gm. in each dose. This was used after the manner in which the intramuscular injection already referred to was used. No bad results followed the employment of this mixture, nor was any decomposition of the neosalvarsan in the presence of the hydrargyrum noted.

SEQUELAE OF INTRAVENOUS INJECTION

The phenomena which follow an intravenous injection of neosalvarsan may be briefly summarized as follows:

1. *Elevation of Temperature.*—When present, it usually begins six or eight hours after the injection. It is more frequent after the first than those given subsequently. In a series of 191 injections Ravaut ascertained an elevation of temperature above 38 C. (100.4 F.) fifty-one times. The temperature usually drops to normal within twenty-four hours.

Certain syphilographers, among them Jeanselme, state that the fever which follows the initial injection of neosalvarsan is a specific one, due to the destruction of the spirochete, and further that it possesses the same significance as that which follows the injection of tuberculin in tuberculosis. This statement is strengthened by the fact that in a large number of skin diseases treated with intravenous injections of neosalvarsan, among them leprosy, sporotrichosis, mycosis fungoides, sarcoid and dermatitis herpetiformis, this rise in temperature was not detected.

Observations made by Brocq are of interest as showing that in different stages of syphilis the febrile reaction varies. Those treated with neosalvarsan during the period of the initial lesion showed a temperature of 37.5 C. (99.5 F.), 37.8 C. (100.04 F.) rarely 38 C. During the secondary stage slightly higher readings were recorded up to 38.5 C. (101.3 F.). The highest temperature reached was found in those suffering from the graver manifestations of syphilis. Among them an elevation to 40 C. (104 F.) was not uncommon.

2. *Headache.*—This is of frequent occurrence following the initial injection, in 45 per cent. of all cases. according to Milian. It usually appears a few hours after the injection, but its duration does not usually exceed twenty-four hours. Should the patient complain of headache following his first injection, one need not attach any particular significance to it. But if, on the other hand, it is noted after several, the physician should be on his guard and examine the nervous system of his patient at once. This can be done clinically or biologically. The latter method is more delicate and accurate. Spinal puncture having been performed, the fluid which has been withdrawn should be examined microscopically with regard to the presence of an increased number of lymphocytes and chemically for albumin, and it can be further tested by means of the Wassermann reaction. The degree of pressure under which the fluid issues should not be overlooked.

3. *Nausea and Vomiting.*—These, like fever and headache, appear most frequently after the first injection, but may come more quickly, sometimes almost immediately after the neosalvarsan has been given. In his series of injections which has been already mentioned, Ravaut noted nausea twenty-two times and vomiting ten times. He believes that these can in most cases be avoided by a preliminary course of mercurial injections.

4. *Diarrhea.*—A serous diarrhea has been observed, usually on the night following the injections. It is generally mild in character and only found after the initial treatment as a rule.

5. *Cutaneous Manifestations.*—Generalized scarlatiniform eruption, bullous eruptions, herpes zoster, urticaria, herpes simplex and morbilliform erythemata have been observed.

6. *Miscellaneous.*—Icterus with enlarged liver, neuritis plus the classical picture of arsenical paralysis, deafness and others too numerous to be considered, have been reported.

There is a noticeable tendency toward reducing the number of conditions in which the use of neosalvarsan is contra-indicated. The following are the chief contra-indications: In nephritis (some advise the use of neosalvarsan when the renal lesion is luetic), myocarditis, chronic alcoholism, acute inflammation of the lungs and upper air-passages and gastric or duodenal ulcer. As to tabes and general paralysis in advanced stages, it is the opinion that they should be treated with this agent even though one is forced to give a small dose. In the incipient stages of these two diseases large doses can be given.

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[4] Emery: Bull. Soc. franç. de dermat. et de syph., 1912, p. 461.

[5] Ravaut: Ann. de dermat. et de syph., April, 1913, p. 206.

[6] Balzer: Presse méd., April 2, 1913; Bull. Soc. franç. de dermat. et de syph., 1913, p. 92.

With regard to the effect of neosalvarsan on the various lesions of lues most French syphiligraphers seem in accord with the conclusions of Brocq,[7] who, while believing it to be a most efficient preparation, does not hesitate to say that a prolonged and intensive mercurial treatment should follow each course of injections. He also believes that the combined action of mercury and arsenic is infinitely superior to the employment of either one alone. Neosalvarsan is admitted to be equally as efficient as salvarsan without several of its disadvantages.

SUMMARY

1. The initial dose of neosalvarsan in most cases should not exceed 0.45 gm.
2. At least seven days should elapse before a second injection is given.
3. If following several injections, signs of intolerance are noted, the dose should be kept at the same figure, and reduced if the symptoms do not disappear following further treatment.
4. Distilled water is the best solvent.
5. Administration in concentrated solution seems to be the superior method.
6. Distillation should be performed in an apparatus composed wholly of glass.
7. The intravenous method is the one of choice.
8. Continued headache should be regarded as indicating possible involvement of the nervous system.
9. Neosalvarsan has a most efficient ally in mercury.

802 West Madison Street.

EFFECT OF LACTIC ACID BACILLI ON DIPHTHERIA

S. T. NICHOLSON, Jr., M.D.
AND
JOHN F. HOGAN, M.D.
BALTIMORE

Owing to the small number of beds available for the treatment of diphtheria in the Baltimore Municipal Hospital for Infectious Diseases, and to the increasing demand for institutional treatment of this disease, every suggestion for ridding the nose and throat of the Klebs-Löffler bacilli has been carefully considered by us and in most instances put to test.

The outcome of those tests gave no better results in our hands than our former routine, but we did not use the *Staphylococcus aureus* spray, described by Schiøtz,[1] as an overrider on account of its virulency. We perhaps were influenced more by the unfavorable reports than the favorable. Davis,[2] among others reported a case of severe tonsillitis following the use of this spray.

The routine of this hospital for the treatment of diphtheritic noses and throats consists of thorough irrigations of both parts with warm normal salt solution (by gravity) on admission, and frequent subsequent gargling or spraying with liquor sodii boratis compositus and liquor iodi carbolatus, and occasional swabbing with a 5 per cent. silver nitrate solution.

In addition to this routine, the suggestion of Wood[3] for the use of the live lactic acid bacillus spray for diphtheria as an overrider was done and gives promise of being a valuable addition.

We have employed this method in nine cases with results that are more pleasing than those from any other method at our disposal. These cases were not selected, but taken as they were admitted as bacteriologic and clinical diphtheria with the exception of Case 3, which was a bacteriologic case only. Our former treatment for the typical carriers differs somewhat from the routine mentioned above in that in these cases the tonsils are distended with sterile normal salt solution or with antitoxin by the injection of either directly into the tonsillar tissue, the surface of the tonsils then being swabbed with liquor iodi carbolatus. In Case 3 the live lactic bacilli were sprayed instead of using the antiseptic swabs.

We obtained cultures of the live lactic acid bacilli (Bulgarian type) from the Mulford laboratories in 20 c.c. tubes.

A small atomizer was used to distribute the culture in the nose and throat. This method was used in four cases. Ordinary sour milk was used in five cases in the form of a gargle for the throat and spray for the nose. It might be mentioned that no antiseptic gargles or sprays were used in these nine cases and we have treated some others, in which both were used with practically the same results as below.

LACTIC ACID

Case 1.—Girl, aged 4. Onset Sept. 12, 1913, with a sore throat. Admitted to Sydenham Hospital, September 17. Received no treatment prior to admission. Examination of the throat revealed a thick grayish membrane on each tonsil. Culture positive to Klebs-Löffler bacilli. On admission 10,000 units antidiphtheritic serum given.

September 18: Throat sprayed with two tubes of pure culture of lactic acid bacillus.

September 19 and 20: Cultures taken on these days were positive. Throat sprayed as on the 18th.

September 21: Culture taken on this day was slightly positive (but two or three Klebs-Löffler bacilli could be seen).

September 22, 23 and 24: Cultures taken on these dates were negative.

Summary: A negative culture was obtained four days after treatment was started with pure cultures of lactic acid bacillus, and but five days had elapsed since the antidiphtheritic serum had been given.

Case 2.—Girl, aged 2½. Onset Sept. 15, 1913. Admitted to Sydenham Hospital, Sept. 17, 1913. Examination on admission showed that each tonsil contained a small patch of membrane. Culture positive in Klebs-Löffler bacilli. Five thousand units antidiphtheritic serum given.

September 23: Culture positive.

September 24: Culture still positive. Throat sprayed with pure culture of lactic acid bacilli (Bulgarian type) at 2 p. m.

September 25: Culture slightly positive. Throat sprayed as on the 24th, at 11 a. m.

September 26 and 27: Culture negative to B. diphtheriae.

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[7] Brocq: Bull. Soc. franç. de dermat. et de syph., 1912, p. 377; Presse méd., July 26, 1913.

[1] Schiøtz, A.: Cure of Chronic Diphtheria Bacillus Carriers, Ugesk. f. Læger, Dec. 9, 1909, abstr., The Journal A. M. A., Jan. 29, 1910, p. 422.

[2] Davis, Clara M.: Tonsillitis Following the Use of the Staphylococcus Spray, The Journal A. M. A., Aug. 9, 1913, p. 393.

[3] Wood, Harold B.: Lactic Acid Bacillus Spray for Diphtheria, The Journal A. M. A., Aug. 9, 1913, p. 392.

Case 3.—Girl, aged 14. Admitted to the Sydenham Hospital Oct. 6, 1913. Culture, examined by the city health department on account of diphtheria being in the family, was found positive Oct. 5, 1913. Examination reveals the absence of membrane on the tonsils, but they are enlarged and injected. Five thousand units antidiphtheritic serum given.

October 7: Throat sprayed with lactic acid bacilli (pure culture of the Bulgarian type).

October 8: Culture positive to *B. diphtheriae.*

October 9 and 10: Cultures negative.

Case 4.—Girl, aged 8. Admitted to Sydenham Hospital on October 15, twenty-four hours after the onset. Each tonsil contained a small patch of whitish membrane. Culture taken on this date was positive to Klebs-Löffler bacilli. Five thousand units antidiphtheritic serum given.

October 16: Culture taken at 11:30 a. m. positive. Throat sprayed with pure culture lactic acid bacilli (Bulgarian type) at 12 m.

October 17: Culture taken at 4 p. m. negative. Throat sprayed, as on previous day, at 4:30.

October 18, 19 and 20: Cultures taken at 11 a. m. each day negative.

SOUR MILK

Case 5.—Woman, aged 25. Admitted to Sydenham Hospital Nov. 9, 1913, the date of the onset. Examination reveals a whitish, ragged membrane extending over the surface of both tonsils and posterior pharynx. Ten thousand units antitoxin given. Culture positive to *B. diphtheriae.*

November 11: Membrane beginning to disintegrate but tonsils still very edematous. Five thousand units antidiphtheritic serum given.

November 17: Culture taken at 2 p. m. positive. Sour milk used as gargle from this time (2 p. m.) until midnight, every three hours.

November 18, 19 and 20: Cultures each day negative. Sour milk used as gargle every two hours from noon until midnight on the 18th and 19th.

Case 6.—Girl, aged 18. Onset November 9, with sore throat and malaise. Examination shows on both tonsils a whitish membrane on a red edematous base. The posterior pharynx is greatly injected and swollen.

November 11: Admitted to Sydenham Hospital and 5,000 units of antidiphtheritic serum given. Five thousand units of antitoxin given the day previous to admission (Nov. 10, 1913).

November 15: Membrane has disappeared.

November 17: Culture taken at 2 p. m. positive to *B. diphtheriae.* Sour milk used as gargle from 2 p. m. until midnight, every two hours.

November 19 and 20: Cultures taken at 11 a. m. each day negative to *B. diphtheriae.* Sour milk used as gargle every two hours from noon until midnight.

November 22: Edema has completely disappeared and with the exception of a slight enlargement of the tonsils, throat has a normal appearance.

Case 7.—Girl, aged 14. Admitted to Sydenham Hospital Nov. 10, 1913. Onset November 2, with cold in the head. Examination shows breathing labored, lips and mucous membranes are cyanotic, continuous bleeding from nose and dried blood on face around nose. There is a retraction of interspaces and patient cannot speak above a whisper. There was a small patch of grayish membrane on each tonsil.

November 10: Fifteen thousand units antidiphtheritic serum given. Culture positive to *B. diphtheriae.*

November 15: Culture positive.

November 17: Culture positive. Sour milk used as gargle every three hours from noon until midnight.

November 18 and 19: Culture taken at 11 a. m. negative. Sour milk used as gargle every two hours from noon until midnight.

November 21: Culture negative.

Case 8.—Girl, aged 8. Onset Nov. 18, 1913, with sore throat. Culture taken November 19 and examined by health department positive to *B. diphtheriae.*

November 20: Patient admitted to Sydenham Hospital at 1 p. m. Culture taken on admission positive. Throat gargled every two hours with sour milk from taking of culture until midnight. Examination showed both tonsils completely covered with a thick grayish membrane.

November 21: Culture positive. Sour milk used as gargle from noon until midnight. Membrane not so thick and beginning to disintegrate.

November 22: Culture taken at 11 a. m. positive. Membrane almost gone, but a small patch present on left tonsil.

November 23: Membrane entirely gone. Culture taken at 11 a. m. positive. Sour milk used as gargle from noon until midnight every two hours.

November 24, 25 and 26: Cultures negative. Sour milk used as gargle from noon until midnight.

Case 9.—Girl, aged 6. Onset Nov. 25, 1913, with sore throat. Admitted to Sydenham Hospital Nov. 26, 1913. Examination showed tonsils enlarged, hyperemic and edematous; a patch of thick grayish membrane on left tonsil.

November 26: Five thousand units of antidiphtheritic serum given at 12:15 p. m. Culture taken at this time positive. Sour milk used as a gargle from noon until midnight.

November 27, 28 and 29: Cultures positive. Sour milk gargle used from noon until midnight.

November 30 and December 1: Cultures negative.

SUMMARY

The results of the use of the lactic acid bacillus and sour milk in these few cases are encouraging enough for us to make a further study in this direction.

With the use of it and the intravenous method of administering antitoxin which will be published in a later paper, the patients are kept in the hospital a shorter period of time than formerly.

Before a definite conclusion can be reached in regard to the effect that these organisms have on the Klebs-Löffler bacilli and the cause of the antagonism between the organisms, however, a large series of cases must be studied—a series that extends over a long period of time in which comparisons can be made with the former methods of treatment.

Our part in this is simply a partial appliance of a method recommended by another.

Sydenham Hospital.

THE PRECIPITATION OF COLLOIDAL GOLD

A SPECIFIC REACTION IN THE SPINAL FLUID

D. M. KAPLAN, M.D.
Director of the Laboratory, Neurological Institute
AND
J. E. McCLELLAND, A.B., M.D.
Resident Physician, First Division Neurological Institute
NEW YORK

The discovery of the principle of complement deviation, and its application to syphilis by Wassermann, introduced a new era in medicine. Deviation for diseases other than syphilis have been elaborated with varying success, and attempts have been made by some to simplify and by others to render more delicate the original method suggested by the discoverer of the reaction. The significance of the entire test was for a time under discussion, but thanks to laboratory workers the importance of the Wassermann reaction has received a definite status and has been so well studied that, in conjunction with the analysis of the cerebrospinal fluid, it occupies a position second to none in the neurologic laboratory to-day.

A series of tests have been introduced for rendering assistance especially in neurologic cases, and it seems that the endeavors along this line are by no means exhausted. Most of these experiments have utilized the cerebrospinal fluid, and it is concerning one of the more recent of these tests that we wish to draw attention and report our findings. This test is called the goldsol or gold chlorid precipitation test, and was first worked out by Carl Lange.

Lange[1] says that in order to ascertain the exact nature of the globulin in the cerebrospinal fluid he has made use of the most delicate known method in the field of protein analysis, namely, the determination of the gold number (*Goldzahl*) according to the method worked out by Zsigmondy. In Lange's article it is apparent that the sole purpose of the investigation was to determine the chemical nature of the substance in the cerebrospinal fluid commonly spoken of as globulin, and obtained *in vitro* by Nonne's half saturation with ammonium sulphate solution and known as "Phase 1" reaction. This substance has been subjected to the large number of reactions usually employed in the analysis of proteins, as well as to the determination of the gold number. The results obtained with the latter method, with fluids from patients with syphilitic diseases of the nervous system, suggested to Lange the possibility of using it as a specific test for syphilis of the nervous system. At any rate the conclusion at the end of his paper neglects to tell us the nature of the protein substance, the point which he set out to establish.

The technic, according to Lange, depends chiefly on the proper preparation of the reagent. He describes a color-scale to correspond with varying degrees of gold precipitation; this scale reads from a clear watery white, which is obtained with complete precipitation, through the partial precipitations giving, respectively, white-blue, light blue, dark blue, violet, blue-red and red-blue, to the original red of the indicator. Besides these color changes, Lange considers as important the dilution in which the precipitation takes place. In his experiments the dilutions varied from 1 : 10 to 1 : 40,000.

In expressing his results graphically, Lange places the abscissa line at the top; in our work we have followed the usual custom and placed the abscissa at the bottom.

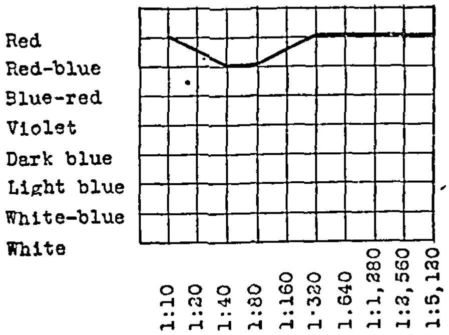

Chart 1.—Curve obtained in a case of secondary syphilis with headaches (reproduced from Lange).

For the sake of comparison we reproduce one of Lange's curves (Chart 1), which was obtained in a case of secondary syphilis with headaches. In Lange's article this is the only curve given with explanatory data; the other curves are without numbers and without color-scale, thus rendering difficult the correct interpretation. The article concludes with several tables giving the result of the gold precipitation expressed in a number of pluses, the complete precipitation being recorded as five pluses.

The cerebrospinal fluids from twenty non-syphilitic patients were analyzed and gave negative results. The fluids from cases of paresis were recorded with a number of pluses varying from three to five. Fluids from cases of secondary syphilis with headaches also showed five pluses.

The entire work of Lange included less than a hundred cases. A few excellent color-plates accompany his communication. His conclusion is that the reaction is significant of syphilis of the nervous system, and he suggests that patients with syphilis should have this test performed in addition to those usually employed. He says that it is particularly to be recommended in cases in which only a small amount of spinal fluid is available, and that it is also very useful in those cases in which syphilis is suspected and yet there are no clinical evidences of the disease.

A few American workers have repeated Lange's work and have verified his conclusions. Grulee and Moody also assert that they have found the test of value in diagnosticating cases of congenital lues without neurologic manifestations.

Our results do not entirely coincide with those of Lange and his followers in America. In general, we have found that this test is not a specific one for syphilitic disease of the nervous system, but when all the curves are compared, it is found that a characteristic reaction obtains in practically all cases of general paresis and in most of the cases of taboparesis. The fact that in taboparesis the curve is almost identical with that of general paresis is very interesting from both the laboratory and clinical points of view. The persistence of the characteristic curve in well-treated cases of general paresis reminds one of the "Wassermann-fast" condition in the serum which is present in these cases, and may prove to be a valuable laboratory help in differentiating general paresis from cerebrospinal lues and other pathologic states simulating paresis.

Before presenting our results it is advisable to describe briefly the technic, emphasizing certain salient points for properly carrying out this test.

TECHNIC EMPLOYED

The following stock solutions are used:

10 per cent. sodium chlorid solution, made from Merck's C. P. crystals.
1 per cent. gold chlorid solution, made from Merck's C. P. crystals.
2 per cent. potassium carbonate solution.
0.75 per cent. formaldehyd solution.

From the 10 per cent. sodium chlorid solution a 0.4 per cent. solution is to be freshly prepared for each day's tests.

PREPARATION OF THE COLLOIDAL GOLD

The proper preparation of this reagent is the most important as well as the most difficult part of the technic.

We have been in the habit of making up 500 c.c. at a time as follows: In a liter Florence flask of Jena glass (Lange recommends a beaker) which has been thoroughly cleansed with strong hydrochloric acid, water, distilled water and double-distilled water, are poured 500 c.c. of fresh double-distilled water. It is important to note that no rubber stopper or rubber connection should come in contact with the steam or with the distilled water.

Five c.c. of the potassium carbonate solution are added and the flask placed over the flame for one minute and 5 c.c. of 1 per cent. gold chlorid solution added. The heating is continued until the first bubbles appear; the flame is turned off and 5 c.c. of the formaldehyd solution allowed to run in gradually. During the addition of the formaldehyd the flask must be constantly shaken until the solution changes to a deep port-wine color. This is the colloidal gold solution, and it should be absolutely transparent, and when viewed by reflected light should permit the reading of ordinary newspaper print. It should not show a brown shimmer or a bluish color, nor should there be a bluish precipitate or any discoloration on the sides of the flask. It is safer to discard solutions that do not answer these requirements, as errors and false curves are liable to result from their use.

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[1] Lange, Carl: Ztschr. f. Chemotherap., 1912, i, Part 1.

As a standard of color comparison we make use of 10 c.c. of a tenth-normal sodium hydroxid solution plus 1 c.c. of a Congo-red solution and 0.5 c.c. of an alcoholic alizarin solution. This gives a color matching exactly the correct color of the properly prepared colloidal gold. The comparison is to be made by transmitted light.

PERFORMANCE OF THE TEST

Into the first of a series of ten test-tubes are placed 1.8 c.c. of the 0.4 per cent. freshly prepared sodium chlorid solution, and into each of the others 1 c.c. To the first test-tube is now added 0.2 c.c. of the spinal fluid to be tested, measured accurately. This is thoroughly mixed by shaking and drawing up a 1-c.c. pipet several times. This gives a dilution of 1:10. One c.c. is now transferred from the first to the second tube and thoroughly mixed as directed before. This gives a dilution of the spinal fluid of 1:20 in the second tube; 1 c.c. of the solution in the second tube is transferred to the third test-tube, in which the dilution becomes 1:40 and so on through the series, giving a final dilution of one in 5,120 in the tenth test-tube.

Five c.c. of the gold chlorid solution are now added to each of the tubes and thoroughly shaken to insure perfect mixing of the fluid and reagent. If the reaction is going to be positive, a change in color of the indicator from red to a bluish hue takes place in a few minutes, but the final reading should be made only after from twelve to twenty-four hours. It has been our practice to allow all tests to stand over night. The total precipitation of the gold causes a complete disappearance of the red color of the indicator, giving a watery clear solution. Following the custom of other writers, we represent this complete precipitation as No. 5 on the ordinates (all results are best expressed in graphic curves on cross-section paper), a light blue almost clear fluid is designated as No. 4, and the next change is a deeper blue, which is No. 3; a reddish blue is No. 2, a slightly changed red is No. 1, and no change whatsoever is zero. Nicer color distinctions can be interpolated, but the foregoing scale is sufficient as a satisfactory working basis.

PRECAUTIONS

1. The spinal fluid should be clear, fresh and free from red blood-cells or other contaminations.
2. The lumbar-puncture needle should contain no rust, and should be cleansed with alcohol and ether before being sterilized.
3. There must be thorough and proper mixing both before and after the addition of the indicator to insure accurate dilutions.
4. All test-tubes should be thoroughly cleansed and sterilized. Pseudoreactions will result through omission of this detail.
5. All pipets should be treated in a similar manner.
6. For each fluid use a fresh pipet.

MATERIAL

For the sake of economizing space we print one curve (Chart 2) in full and give a few figures from which remaining curves can be reconstructed; for example, the color-changes given by Mr. Kin., expressed numerically for the various dilutions, were 5 5 5 5 5 4 3 2 0 0, the curve for which is shown in Figure 2.

In reproducing the curves the majority will have no numbers to indicate the dilutions; it will be taken for granted that the first number represents the first tube or the 1 : 10 dilution, and the tenth number represents the change in the tenth tube, or 1 : 5,120. With this explanation it will be very easy to reconstruct the curve.

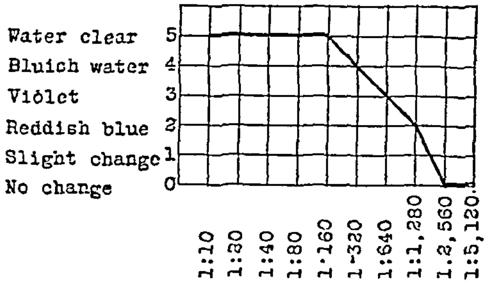

Chart 2.—Construction of curve for color-changes expressed by the numerals 5 5 5 5 5 4 3 2 0 0.

The fluids analyzed by us were chiefly from patients with organic disease of the nervous system; a few were from functional cases and an even smaller number were from cases commonly classified as medical cases. We have analyzed to date approximately 250 spinal fluids and have subdivided our results into two classes, A, nonlues, and B, syphilitic disease of the nervous system. Class B is subdivided into (1) cerebrospinal syphilis, (2) tabes, (3) taboparesis, and (4) general paresis.

TABLE 1.—CLASS A, NON-LUES

		Serology*					
Name	Diagnosis	S.W.	F.W.	Gl.	Pl.	Remarks	Gold Curve
Hof.	Spast. parapl.	—	—	—	0	Post meningitic	1 0 0 0 0 0 0 0 0 0
Men.	Mult. scler.	—	—	—	0	....	1 2 2 2 2 0 0 0 0 0
Sch.	Mult. scler.	—	—	—	0	....	5 5 5 4 2 1 0 0 0 0

Summary: 28 analyses; negative, 27; positive, 1 (no reaction considered positive unless it shows 3 or greater precipitations).

* In this and the the following abbreviations are used: S. W ; F. W., cerebrospinal fluid Wassermann; Gl leocytosis. In the last column the precipitati s given.

TABLE 2.—CLASS B, LUETIC DISEASES OF THE NERVOUS SYSTEM

(1) Cerebrospinal Lues

		Serology					
Name	Treatment	S.W.	F.W.	Gl.	Pl.	Remarks	Gold Curve
Haw.	Many salvarsan and Hg. inunct.	—	—	+	42	......	0 0 0 0 0 0 0 0 0 0 0
Hul.	....	+	+	+	106	Erb's spast. paralysis	4 4 4 0 0 0 0 0 0 0
Gel.	Salvarsan and neosalvarsan	..	+	+	127	......	3 3 2 2 1 1 1 1 1 1

Summary: 28 analyses; negative, 13; positive, 15.

(2) Tabes

		Serology					
Name	Treatment	S.W.	F.W.	Gl.	Pl.	Remarks	Gold Curve
Mat.	Salvarsan	...	...	...	...	......	0 0 0 0 0 0 0 0 0 0
Jay.	....	+	—	—	127	Exudative type	0 0 0 0 0 0 0 0 0 0
Ref.	....	+	+	—	18	......	3 4 4 3 2 2 0 0 0 0

Summary: 36 analyses; negative, 28; positive, 8.

(3) Taboparesis

		Serology					
Name	Treatment	S.W.	F.W.	Gl.	Pl.	Remarks	Gold Curve
Cat.	Neosalvarsan	+	+	+	20	....	5 5 5 3 2 0 0 0 0 0
Man.	....	+	+	+	170	....	5 5 4 3 2 0 0 0 0 0
Ber.	....	+	+	+	5	....	4 4 4 4 3 3 1 0 0 0

Summary: Characteristic G. P. curve obtained in 5 cases; 10 analyses; negative, 2; positive, 8.

(4) General paresis

		Serology					
Name	Treatment	S.W.	F.W.	Gl.	Pl.	Remarks	Gold Curve
Roo.	....	+	+	+	16	....	4 4 4 3 3 3 2 0 0 0
Kat.	....	+	+	+	46	....	5 5 5 4 2 2 1 1 0 0
Has.	....	+	+	+	70	....	5 5 1 0 0 0 0 0 0 0

Summary: Characteristic curve in 19 cases; 21 analyses; negative, 0; positive, 21.

When more than one test has been performed on the same patient, the subsequent tests were made only after intervals during which specific treatment had been given. These details are noted in the tables. The tables also contain the usual laboratory data.

All cases in which the diagnosis could not be definitely established were omitted from the tables.

In Table 1, a case diagnosticated as spinal cord tumor, did not give the excess of globulin which is usually found in these cases; but the diagnosis was confirmed at the operation. Case 16 gave a curve similar to those obtained in typical cases of general paralysis; but the clinical diagnosis of multiple sclerosis was clearly the correct one.

CONCLUSIONS

1. We have been unable to corroborate fully the results obtained by the other workers who have asserted that this reaction can be obtained in all cases of syphilitic disease of the nervous system.

2. The most marked reactions and typical curves are obtained only in cases of general paralysis and taboparesis.

3. A positive reaction occurs in most cases of cerebrospinal syphilis, but the curve is not characteristic.

4. In the majority of the cases of tabes either no reaction occurs or only a weak reaction in the 1 : 10, 1 : 20 or 1 : 40 tube.

AN IMPROVED TECHNIC FOR THE DOREMUS-HINDS UREOMETER

CHARLES J. ROBINSON, B.S., Ph.D.
AND
J. H. MUELLER, B.S.
LOUISVILLE, KY.

It is a matter of common knowledge that the estimation of urea by the Doremus-Hinds ureometer involves some error. Nevertheless, this method continues to be almost universally employed by clinicians in routine analysis, doubtless because the more accurate methods[1] seem rather formidable for the average laboratory facilities and often the limited time of the clinical analyst. Hence a simple way of minimizing the error in this very convenient method may be of some value.

According to our observations, the greater part of the error commonly encountered in this determination is due to a fault in the technic of the method. This fault is traceable to the text-books on urinalysis, chemical diagnosis, etc. The directions usually given for carrying out the test specify that after the urine has been introduced into the hypobromite solution, the instrument should be allowed to stand "for a short time," or "from ten to twenty minutes" before the reading is taken. Doubtless every one who has used the method has noticed that minute bubbles of gas continue to rise for a much longer time than that specified. Table 1 shows that this evolution of minute bubbles, extending over a long time, should not be neglected.

It is at once apparent that the readings taken at twenty minutes, according to the text-book directions, are so far below the true figure for urea as to be absolutely worthless. It is equally apparent that there is no regularity in the relation of this first reading to the true value, the first reading sometimes being less than 45 per cent. of the correct figure, sometimes being as much as 95 per cent. of the correct. Such a high reading, however, occurred very seldom. The temperature had little or no part in this, for the laboratory temperature never varied more than 4 or 5 degrees C. while the experiments were being carried out, and the method worked just the same in a warm room as in a cold one.

Consideration of the results of a large number of analyses of pure urea solution and urines showed no definite relation between the time of reading and the relative completeness of the reaction, when the ureometer was allowed to stand quietly. In the samples of urine, the urea was determined by the phosphoric acid method of Folin and Pettibone.[2] Assuming that the latter method gives correct results, we found that the correct figure was reached with the ureometer in periods of time varying from 5 to 24 hours, the periods in one set of readings chosen at random being 16, 5, 19, 19, 24 and 22 hours.

TABLE 1.—READINGS TAKEN AT INTERVALS WITH SIX DIFFERENT UREOMETERS (DOREMUS-HINDS)*

	20 min.	30 min.	1 hr	2 hr.	3 hr.	15 hr.	24 hr.	Actual Amount, mg.
1.	6.4	7.0	8.4	10.0	11.0	13.5	14.5	15
2.	8.8	9.8	11.3	12.2	12.5	13.4	14.0	15
3.	8.0	8.5	9.8	10.6	11.2	12.8	13.6	15
4.	11.0	11.5	12.6	13.2	14.7	14.8	15.3	15
5.	7.1	7.7	8.5	9.3	10.3	13.2	14.0	15
6.	10.6	11.0	12.2	13.0	13.2	14.0	14.3	15
Average..	8.7	9.3	10.8	11.4	12.2	13.8	14.3	15

	20 min.	30 min.	1 hr.	2 hr.	3 hr.	5 hr.	24 hr.	Actual Amount, mg.
1.	13.3	13.5	14.0	14.1	14.3	14.3	14.4	15
2.	13.0	13 8	15.5	15.7	15.8	15.8	15.8	15
3.	13.0	13.5	14.5	14.7	15.0	15.0	15.1	15
4.	13.8	14.4	15.1	15.4	15.5	15.5	15.5	15
5.	13.0	13.4	14.0	14.1	14.1	14.1	14.6	15
6.	14.5	14.8	14.9	15.3	15.4	15.4	15.5	15
Average..	13.4	13.9	14.7	14.9	15.0	15.0	15.1	15

These two sets of readings are selected at random from a large number of similar sets.

* Pure urea solution was used containing 15 mg. per cubic centimeter. Figures express milligrams per cubic centimeter.

Finally it was seen that the explanation of these inconsistently variable results must lie in the amount of diffusion which takes place between the urea solution or urine, and the hypobromite solution at the moment of introduction of the former into the latter, and also the rate of intermingling thereafter. The density of the former being much lower than that of the hypobromite, it rises to the top of the column of liquid even when introduced slowly, before all of the urea has come in contact with hypobromite, and subsequent diffusion takes place only very slowly if the instrument is allowed to stand quietly. Experiment showed at once that agitation after the introduction of the urea solution gave very rapid reaction.

TABLE 2.—UREA DETERMINATIONS WITH AGITATION OF UREOMETER, USING PURE UREA SOLUTION

	Reading	Actual Amt., mg.
1.	14.8	15
2.	15.5	15
3.	15.0	15
4.	14.6	15
5.	15.0	15
6.	15.7	15

Readings taken in five minutes. Figures express milligrams of urea per cubic centimeter of solution.

Several consecutive determinations made with the same ureometer, No. 3 above, gave the following results: 15.1, 15.1, 15.2, 15.1, 15.0.

Agitation was brought about either by gently but rapidly shaking the instrument after the first vigorous reaction was over, or by inserting a coiled copper wire into the hypobromite tube to act as stirrer. With the ordinary shape of the ureometer, the latter method is awkward, and the shaking is preferable. The rate of reaction appears to be roughly proportional to the rate of vibration attained in the shaking. It was found that after five minutes of rapid shaking (from 250 to 300 vibrations per minute), a reading could be taken which did not increase more than 0.2 or 0.3 mg. per cubic centimeter in twenty-four hours. Furthermore, this reading was approximately correct for urea solution, as shown in Table 2.

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[1] Folin: Ztschr. f. physiol. Chem., 1901, xxxii, 504; 1902, xxxvi, 333, and 1903, xxxvii, 548. Hawk: Practical Physiological Chemistry, p. 394. Folin and Pettibone: Jour. Biol. Chem., 1912, xi, 507. Marshall: Jour. Biol. Chem., 1913, xiv, 283.

[2] Jour. Biol. Chem., 1913, xiv, 283.

It would seem, therefore, that any one instrument gives fairly constant results with this technic, which was certainly not true when the instrument was left standing quietly. It would seem also that the largest factor in the deviation from the true value with pure urea solutions is the imperfection in the graduation of the instruments, which suggests that a correction table could be made for each ureometer, which would add greatly to the accuracy of the determinations. Our uncorrected instruments gave readings ranging from 97 to 105 per cent. of the correct value.

TABLE 3.—COMPARATIVE RESULTS OF THE DETERMINATION OF UREA BY THE DOREMUS-HINDS UREOMETER, AND BY FOLIN AND PETTIBONE'S PHOSPHORIC ACID METHOD

No. of Sample	Doremus-Hinds Ureometer	Method of Folin and Pettibone	Factor for Correction of 1	1 Corrected by Average Factor 0.917
1.	19.0	17.20	0.9053	17.42=101.3%
2.	15.9	13.91	0.8748	14.58=104.8%
3.	12.1	10.83	0.8950	11.09=102.4%
4.	11.5	10.69	0.9296	10.54= 98.7%
5.	9.7	8.67	0.8938	8.90=102.0%
6	14.1	13.09	0.9284	12.93= 98.8%
7.	19.9	18.60	0.9346	18.25= 98.1%
8.	22.6	21.60	0.9556	20.72= 96.0%
9.	28.6	26.30	0.9196	26.29= 99.9%
10.	24.6	22.23	0.9037	22.56=101.5%
11.	4.1	3.66	0.8927	3.76=102.7%
12.	14.0	13.43	0.9593	12.84= 95.6%
13.	10.7	9.74	0.9103	9.81=100.7%
14.	7.3	6.74	0.9233	6.69= 99.3%
15.	11.9	10.79	0.9067	10.91=101.1%
16.	15.7	14.47	0.9217	14.40= 99.5%
17.	2.8	2.50	0.8928	2.57=102.7%
18.	9.1	8.82	0.9692	8.35= 94.6%
19.	17.4	16.28	0.9356	15.96= 98.0%
20.	15.8	14.29	0.9044	14.50=101.4%
21.	16.0	15.02	0.9387	14.67= 97.7%
22.	17.0	15.88	0.9341	15.59= 98.2%
23.	14.9	14.10	0.9463	13.66= 96.9%
24.	21.6	20.18	0.9343	19.81= 98.2%
25.	12.9	12.33	0.9558	11.83= 95.9%
26.	16.7	14.96	0.8958	15.31=102.6%
27.	24.8	22.72	0.9161	22.74=100.1%
28.	24.9	24.30	0.9759	22.83= 94.0%
29.	6.0	5.28	0.8800	5.50=104.2%
30.	17.4	16.20	0.9310	15.96= 98.5%
31.	24.0	22.32	0.9300	22.01= 98.6%
32.	14.0	13.23	0.9450	12.84= 97.0%
33.	20.0	18.64	0.9320	18.34= 98.4%
34.	9.3	8.08	0.8688	8.53=105.5%
35.	5.1	4.16	0.8157	4.68=112.4%
36.	11.9	11.28	0.9479	10.91= 96.7%
37.	7.0	5.93	0.8471	6.42=108.2%
38.	16.0	14.39	0.8994	14.67=102.0%
39.	20.6	18.60	0.9029	18.89=101.5%
40.	18.5	17.28	0.9340	16.96= 98.2%

Expressed in milligrams urea per cubic centimeter.
Average factor 0.9172.

Even with pure urea solutions, it was found that if agitation of the ureometer was delayed for some time after the solution had been introduced into the hypobromite, too low results were obtained, the deviation increasing with the length of the delay. It has long been known that urea in the presence of alkali is slowly changed to cyanate, which does not decompose with hypobromite, and this doubtless explains why, when the instruments are left standing, the readings often do not reach so high a figure as with the immediate shaking.

When application of this technic was made to urine, it was found that constant results could be obtained with any one instrument, that different instruments varied slightly, as was to be expected, but that the results were invariably higher than those obtained with the accurate method of Folin and Pettibone. It has been shown repeatedly that other nitrogenous constituents of urine besides urea, especially creatinin, uric acid and guanin, are decomposed by hypobromite, with the evolution of nitrogen, and that the hypobromite itself yields slight amounts of oxygen, which facts account for the high readings. Some of these results are shown in Table 3.

Column 3 of Table 3 shows the factor by which the result shown in Column 1 must be multiplied in each case to obtain the correct value for urea, shown in Column 2. The average of these factors in the forty determinations is 0.9172. It is proposed, therefore, that the figures obtained by the use of the ureometer, the instrument having been shaken as previously mentioned, should be multiplied by this average factor as a correction. The result of this correction applied to the forty determinations is shown in Column 4, with a comparison, expressed in percentage, of this corrected value with the true value. It is seen that all but four of the forty determinations, or 90 per cent. of them, fall within 5 per cent. of the correct figure, while all but twelve, or 70 per cent. of them, fall within 3 per cent. of the correct figure.

It is interesting to note that Ekecrantz and Erikson[3] suggest that in the determination of urea by decomposition (with nitrous acid?), with subsequent measurement of the nitrogen, the results, which were found to be high, should be multiplied by the factor 0.926, obtained by averaging the error in a large number of determinations.

One of us (Robinson) has observed over five hundred urinalyses in which the total nitrogen was determined accurately by the Kjeldahl method, and the urea more or less approximately by the Doremus-Hinds ureometer. By these determinations, the urea nitrogen averaged only about 70 per cent. of the total, whereas careful analyses have shown that the urea nitrogen averages actually about 87 per cent. of the total in normal urines. This indicates that the ureometer as ordinarily used, gives results which average only 80 per cent. of the correct values, and at the same time they vary with extreme inconsistency. It is apparent, then, that the results we have obtained show a vast improvement over the usual way of performing the urea determination, and if similar results can be constantly obtained by further experience with the technic herein employed, the method may yet be rescued from the mire of disrepute into which it has fallen, and take its place as a really approximate "approximate method" in clinical analysis.

To recapitulate, it is definitely shown that the Doremus-Hinds hypobromite method for the determination of urea in urine gives inconsistent and completely unreliable results when performed in the usual way described in the text-books, but when the ureometer is gently but rapidly shaken, either by hand or by machine, at the rate of from 200 to 300 vibrations per minute, the reaction is practically completed in five minutes, and constant results are obtained with any one instrument, there being slight variations in the graduations of different instruments. These results are higher than the correct value for urea, but when multiplied by the factor 0.917, the product represents approximately the true value for urea, being within 5 per cent. of correct in 90 per cent. of the analyses made.

It should be said that all experiments thus far made have been with normal urines. In a series of examinations of pathologic urines now in progress in this laboratory, check determinations are being made of urea by the Folin-Pettibone phosphoric acid method, and the Doremus-Hinds hypobromite method, using the modified technic described above.

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[3] Ekecrantz and Erikson: Chem. Abs., 1912, vi, 3103.

University of Louisville, Laboratory of Physiological Chemistry.

AN ETIOLOGIC STUDY OF HODGKIN'S DISEASE

SECOND NOTE *

C. H. BUNTING, M.D.
MADISON, WIS.
AND
J. L. YATES, M.D.
MILWAUKEE, WIS.

In a preliminary note recently published,[1] we reported that by repeated injection of the diphtheroid organism cultivated by us from cases of Hodgkin's disease, there had been produced in monkeys lesions of the lymph-nodes showing all the essential features of early Hodgkin's disease in man. Up to that time we had been unable to demonstrate that the organism could survive in the monkey for any great length of time, and therefore we felt that we could not assert that we had produced Hodgkin's disease in the monkey, or that we had even demonstrated any great pathogenicity of the diphtheroid organism for that species.

Since making that report, however, the course of our experimental work has demonstrated fully the pathogenicity of the culture we were using, and has further shown that the virulence of the organism to the monkey may easily be increased even to the point of producing death of the animal after a relatively acute illness. While the histologic picture of the enlarged lymph-nodes of the monkey taken three months after the successful inoculation, leaves no question as to the relation of the lesion to that of human Hodgkin's disease of the same duration, the great difficulty seems to be to secure infection and at the same time to avoid so great virulence as to produce extensive necrosis and softening and even suppuration. The working space between these two limits seems very narrow.

Extensive necrosis and leukocytic infiltration of the glands may seem foreign to the usual chronic picture of the lymph-nodes in Hodgkin's disease, yet a recent clinical case has demonstrated that even in man the virulence of the organism may be such as to lead to these features. With an apparent duration of six months, there is in this case marked involvement of cervical, axillary and mediastinal glands, febrile reaction and leukocytosis (44,000). While the excised glands show all the elements of well-developed Hodgkin's disease, there are, in addition, extensive areas of necrosis, softening and leukocytic infiltration. Yet culturally, the diphtheroid organism, which was obtained from both cervical and axillary glands, was the only organism to grow.

At present, our results indicate that the survival of an animal for the requisite length of time is all that is needed for a demonstration of the chronic lymph-node picture seen in the well-developed case of Hodgkin's disease.

Thus, since our experiments demonstrate that the diphtheroid organism is pathogenic for the monkey, that it produces a progressive enlargement of the lymph-nodes, with lesions similar to those of Hodgkin's disease in man, and further that the blood-changes in the monkey are similar to those in man, we feel fully assured of the etiologic relationship of the diphtheroid organism (*Bacterium hodgkini*) to Hodgkin's disease.

The experiments which have led to this conclusion are in outline as follows:

Monkey 1 (covered by previous note).—Repeated injections with diphtheroid organism between April 19 and June 30, 1913, with production of a chronic lymphadenitis, characteristic of early Hodgkin's disease. July 6, excision of glands for histologic study. Implantation of portion of gland into right axilla of Monkey A3.

Death of Monkey 1 from intussusception occurred before infection was secured.

Monkey A3.—Female rhesus.

July 6, 1913, lymph-nodes all small, shot-like. Under ether, tissue from Monkey 1, made up of parts of three lymph-nodes, introduced into axillary space. Fascia and skin closed by separate sutures.

July 9, skin wound slightly pulled apart, but clean. Fascial sutures holding well.

July 19, wound cleanly healed. A group of enlarged glands palpable in right axilla.

August 4, three enlarged glands still palpable in right axilla.

September 24, animal found dead, having died during night after gradual decline.

Post-mortem examination showed in right axilla a group of enlarged lymph-nodes, from 10 to 15 mm. in diameter, with softened areas from which, on incision, a thick puriform necrotic material was expressed. Extending upward from these nodes was a suppurative process reaching to the highest point in the axilla and involving the chest wall. The organs showed multiple metastatic abscesses in lung, heart, liver and pancreas. A hyperemic splenic tumor and cloudy swelling of the viscera were present.

Histologically, while the areas of necrosis and leukocytic infiltration were the most prominent feature of the picture in the adjacent parts of the nodes, there were all the elements of the Hodgkin's picture: distortion and disappearance of architecture; great proliferation of endothelioid cells, with marked development of endothelioid giant-cells, in some places with lobed nuclei, and proliferation of fibroblasts with both fine and patchy sclerosis. Eosinophil cells were found only occasionally (apparently due to exhaustion of the marrow as indicated by marrow sections).

The spleen showed a hyperemic tumor, pulp and sinuses being filled with red blood-cells. In addition the malpighian corpuscles showed a lesion distinct from the usual hyperplasia which results in a sharp outlining of the germinal center and a thick collar of lymphocytes. In this spleen, however, there was irregular and extensive proliferation of the endothelioid cells, with numerous mitotic figures present. Many of the cells were of the size and character of the endothelioid giant-cells in the lymph-nodes. There was also some fibroblastic proliferation in and adjacent to the corpuscles. A scattering of eosinophils was seen.

At the post-mortem examination, a culture was taken from the axillary lymph-nodes, and a pure culture of the diphtheroid organism was obtained. This grew very feebly for several generations but finally acquired greater power of growth. *This culture was used in inoculating Monkey 3.*

Monkey 3.—Female rhesus. Received April 11. Negative to von Pirquet test. April 26, first injection of two slants of a twenty-four-hour growth of culture X. F. A. subcutaneously into right thigh. Subsequent to this and up to August 17, ten injections of the same organism were made in the same location, and with the uniform result of the development of

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[*] From the Pathological Laboratory of the University of Wisconsin.

[*] This work has been aided by a grant from the Rockefeller Institute of Medical Research.

[1] Bunting, C. H., and Yates, J. L.: An Etiologic Study of Hodgkin's Disease, The Journal A. M. A., Nov. 15, 1913, p. 1807.

induration and glandular enlargement which subsided gradually On one occasion June 21, inoculation resulted in the formation of a subcutaneous abscess from which the diphtheroid organism was recovered in pure culture This was subsequently used for inoculation in the hope that it might have acquired some increased virulence

October 25, there were but shot like glands in the right groin and it was felt that the animal was refractory to the culture

October 31, inoculation was made into the right axilla of the scrapings in salt solution of 3 slants of an almost invisible growth on egg medium of the diphtheroid organism recovered from Monkey 3 The salt solution suspension appeared almost clear There was no immediate sharp glandular reaction and one week later no sign of reaction along needle track

December 6 there was a large lobulated, indurated mass along pectoral edge and extending high in axilla, and consisting of enlarged glands distinct in outline but with connecting sclerosis The lower glands were over 1 cm in diameter, while high up in the axilla the glands appeared about 5 mm in diameter At the most prominent low point was a softened area with discharging sinus The material discharged on pressure was a thick white material resembling broken down glands

December 19 the wound was still discharging, and in the left axilla was an infected skin wound (apparently self inoculation) with several enlarged lymph nodes palpable above it

December 31, a second softened area appeared in the right axilla about 3 cm above the first

LEUKOCYTE COUNTS IN MONKEY 3

	Total	N	E	B	S L	L L	L M	Tr
April 17	15 600	34 2	1 4	0 2	54	3 8	1 0	5 4
July 2		22 4	7 8	0 2	57 4	5 8	0 2	6 2
July 12	19 000	25 2	4 2	0 2	60	4 2	0 4	5 8
October 31		49 4	4 8	0 0	37 2	4 0	0 0	4 6
December 6	13 000	42	0 8	0 0	46	4 2	0 4	6 6
December 19	15 000	48	0 2	0 0	38 8	4 0	0 0	9 0
December 31*		70 2	0 0	0 0	19 4	2 2	0 0	8 2

* December 31, 4 nucleated red cells to 500 leukocytes were found

N=neutrophils, E, eosinophils, B basophils S L small lymphocytes, L L, large lymphocytes, L M, large mononuclears and Tr, transitionals

MONKEY 2—Male rhesus, received from New York April 11 April 19 the first injection of a twenty four hour slant growth of the culture X F A was made into the right tonsillar region When it was found that the enlargement of the cervical glands that resulted did not persist, the place of injection was changed to the cervical subcutaneous tissue, on account of the difficulty of reaching the tonsil without etherization Three injections were made in the neck region Then on June 30 the place of inoculation was changed to the right axilla Here six injections were given the dose being increased, until on August 17 four slants of a twenty four hour growth were injected The intervening injections had resulted in the development of axillary induration, associated with glandular swelling which had persisted for about a week after the injection After August 17 no injections were given On September 15 a moderate enlargement of the right axillary glands was noted This continued and on November 1 there was in the right axilla a large, lobulated mass roughly 2 5 by 3 cm in diameter, apparently made of five or six discrete glands with a certain amount of interglandular sclerosis

November 23, under cocain, a gland was removed, cultures made, tissue fixed for study, and a portion of the gland implanted in Monkey A4

Macroscopically the gland showed large, opaque, softened, necrotic areas, surrounded by more translucent hyperplastic tissue The softened material had the consistency neither of true pus nor of tuberculous caseation

Histologically, the gland showed areas of necrosis infiltrated by leukocytes There was some scarring of the gland Outside of the necrotic areas the architecture of the gland was lost The tissue was cellular, showing relatively few lymphocytes, but large numbers of endothelioid cells, many of which had very large nuclei, of the giant cell type Eosinophilic infiltration was present and marked in some areas There was a periglandular sclerosis

LEUKOCYTE COUNTS IN MONKEY 2

	Total	N	E	B	S L	L L	L M	Tr
April 17	32 000	50 6	8 0	0 0	34 6	2 0	0 8	4 0
April 21	15 600	71 6	4 0	0 8	15 6	2 6	0 2	5 2
April 24	24,400	65 4	3 8	1 2	20 0	2 4	0 6	6 6
October 28	19,000	44 6	7 2	0 4	37 6	2 6	0 0	7 6
November 14	20,000	35 8	7 0	0 0	42 8	4 3	0 4	9 7
December 31		45 3	2 9	0 4	33 7	5 6	0 4	10 7

One nucleated red blood cell to 500 white blood cells noted October 28, 1 November 14, and 2 to 500 December 31

A pure culture of the diphtheroid organism was found in one serum tube on which a piece of gland was planted

December 6, the wound was perfectly healed, but an area of softening had developed at some distance from the wound and at the lowermost prominent point of the enlarged mass

December 26, the skin was found necrotic at one point over this area, and a thick necrotic material exuded on pressure A diphtheroid organism was found in smears from this material

December 31, skin sinus appeared healed and dry. No further softening

MONKEY A4—Large male rhesus

November 23, right axilla shows only small shot like glands high up Under cocain anesthesia, a piece of gland from Monkey A2 was implanted in the right axilla. Fascia and skin were stitched separately

December 6, wound was found perfectly healed Several moderately enlarged glands were felt above site of implantation

December 19, several enlarged glands in axilla formed a mass roughly 2 cm in diameter.

THE CORRECTION OF THE FIXED STRUCTURAL TYPE OF SPINAL LATERAL CURVATURE *

ROLAND O MEISENBACH, M D.
BUFFALO N. Y.

INTRODUCTION

Notwithstanding the fact that in the past so much has been written with regard to the treatment of the fixed structural type of spinal lateral curvature, it has generally been conceded that little progress has been made and that the results obtained have been far from satisfactory It has been generally recognized, indeed, that patients with bony rotation could not be anatomically straightened, and in selected cases only could they be improved.

Many theories concerning the mechanism of the spine have been advanced at different times, but with little or no result so far as the correction of the spine is concerned, and not more than a year or so ago it was generally recognized by all who tried to treat the fixed types of scoliosis that little or no headway toward remedying the condition could be made. Even though the contour of the trunk had been changed after a number of years of constant treatment, the radiograph still showed not only that forward rotation of the vertebrae had not been accomplished, but also that the correction, if any, was due to the changing of the contour of the ribs. The mechanism of the spine was considered very intricate by many of the writers, among whom there existed a controversy on some of the essential points of its mechanism. The diligent work done by many, however, has led (even though by means of elimination) to a better understanding of the mechanics of the spine and has evolved a new principle with respect to the treatment of the fixed structural types of lateral curvature. The results obtained to-day in structural cases with bony deformity would have been considered unbelievable a few years ago, especially that the vertebrae can be rotated, the conformation of the ribs changed and a deformed trunk made to assume the position of the normal trunk; not only may the displacement of the viscera be corrected, but also actual bony changes can be caused. Abbott has given us new inspiration to attack cases which formerly were considered impossible, and his theory has been backed by the results obtained in his work, which are demonstrated not only by the altered external contour, but through verification of the change of contour as shown by the radiogram.

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* Read in the Section on Orthopedic Surgery of the American Medical Association at the Sixty-Fourth Annual Session, held at Minneapolis June, 1913

* Because of lack of space, this article is abbreviated in THE JOURNAL The complete article appears in the Transactions of the Section and in the author s reprints

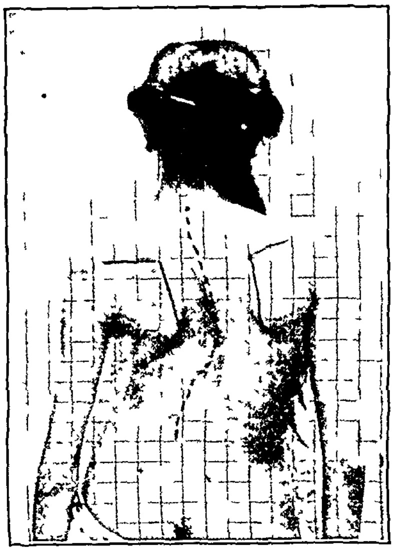

Fig 11.—Photograph taken in Case 5 after ten months' treatment by various methods

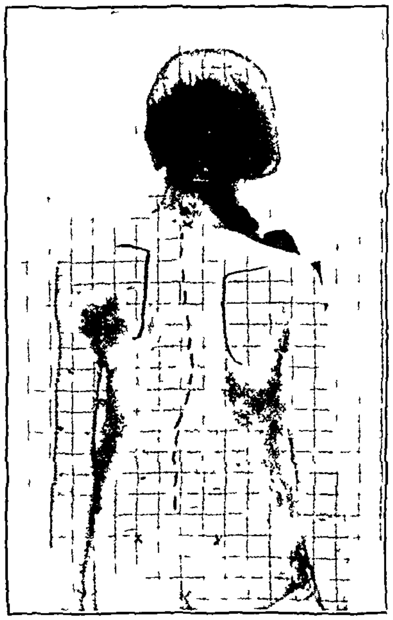

Fig. 12.—Photograph taken in Case 5 after four corrective jackets had been applied

MECHANICS OF THE SPINE AND EXPERIMENTS ON THE CADAVER

For the purpose of thoroughly studying the spinal movements irrespective of curves, and obtaining a better understanding of the movement of the normal spine, the cadaver was used. The object of the work was not to produce lateral curvature, but to put into practice the two methods of treatment which have been so frequently written of, namely, the method of hyperextension and the method of flexion, the latter being practically Abbott's method. The questions immediately arose in my mind: Is it possible to rotate the vertebrae in the dorsal and lumbar regions with the spine hyperextended? Is it possible to obtain more motion and more rotation in the dorsal and lumbar region with the spine in flexion? What is the effect of side bending in regard to hyperextension and flexion?

Since performing the experiments in which roentgenograms of the cadaver in the different positions were made, a much better understanding has been afforded me and many doubtful problems have been solved to my satisfaction. The cadaver in an upright position was firmly anchored at the pelvis; an iron pipe was crossed anteriorly and anchored at the shoulders for the purpose of controlling rotation; long hatpins were driven into the spinous processes and numbered; the cadaver was placed in eighteen different positions and records made, after which roentgenograms of it in different positions were made, from which the following conclusions were arrived at:

CONCLUSIONS DRAWN FROM EXPERIMENTS ON THE CADAVER

That forward traction of the spine opens the articulations and unlocks the spine. Hyperextension locks the spine, most in the lumbar region and somewhat in the dorsal. At the junction of the twelfth vertebra there is a weak spot, which allows some rotation, but the twelfth vertebra follows the action of the lumbar vertebrae rather than the dorsal. Forward traction and side bending with rotation places the spine in the most favorable position for complete freedom of all the vertebrae.

TREATMENT

In considering the treatment, as previously remarked, the spine itself is not the prime factor, but the trunk as a whole must be considered. Only within the last two years has it been shown that in many of the fixed structural types patients can be completely straightened and, in the severer types, benefited both with regard to the deformity and especially to the general health; but it is necessary to consider not only the bony structures, but also the clinical entities relative to the viscera. I have been impressed by this fact in some of the far-reaching and excellent results that have been obtained in many patients after a comparatively short treatment, and even before the treatment has been entirely completed.

Since the flexion treatment has given such excellent results in a comparatively short time, those of us who have much to do with these cases which were formerly considered hopeless, or in which, at best, it was only possible to prevent the deformity from growing worse, thus consider that a new epoch has been entered on in the treatment of the fixed types of lateral curvature. This is proved by the fact that many of the patients now being treated, and in whom marked improvement has been noted, had previously received various treatments over periods of from two to ten years, but had not been corrected anatomically, nor had the spine actually been unrotated or the deformity been entirely corrected. Figures 11, 12, 13, 15, 16 and 19 very well illustrate these statements.

In considering the treatment of any given case, there are several procedures necessary so that the operator will not deceive himself as time passes, but may be able to refer to accurate records in connection with the case.

1. A thorough physical examination of the chest, to determine the condition of the heart and the lungs, with a blood-pressure or any other test or chemical analysis which the internist may deem necessary.

2. Thorough and accurate measurements with the scoliometer (Fig. 8) and records of the general posture and contour of the chest at any given level of the trunk.

3. Satisfactory roentgenograms before treatment is begun and through the cast during the process of correction. For this purpose I have devised a scoliometer and Roentgen-ray equipment.

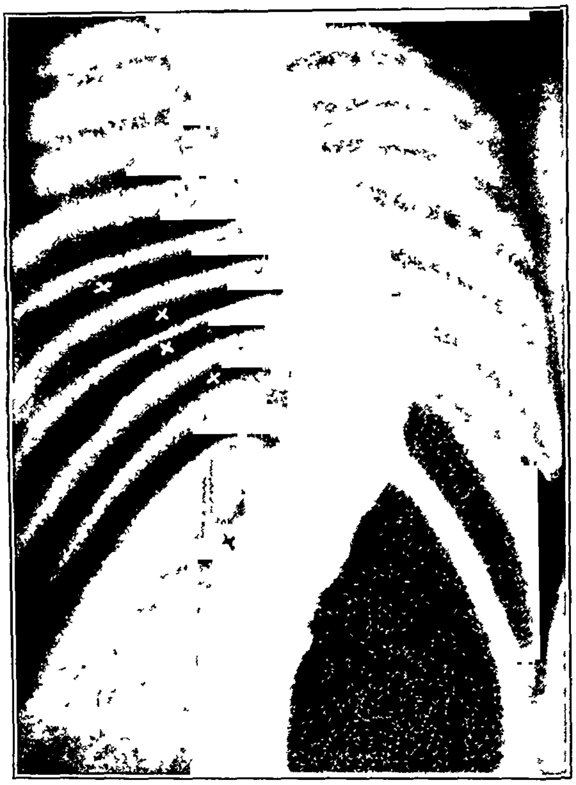

Fig 13—Roentgenogram taken in Case 5 before flexion treatment began Note rotation of dorsal and lumbar vertebrae, also asymmetry of ribs

The treatment of the structural type heretofore has been chiefly what I prefer to call the hyperextension treatment, or the treatment of Wullstein, by traction and hyperextension. I have always believed it unsatisfactory, and because until recently I have felt a certain amount of hesitation with regard to these cases I have refrained from speaking or writing of this type.

In view of the gratifying results which we have obtained after much study, experimenting and work in the very cases which formerly could not be successfully treated, this paper seems justified. The new treatment is practically flexion treatment, in which the spine is unlocked, the ribs are rotated and lateral traction is applied, after which the trunk is fixed with a plaster dressing. Aside from the discomfort occasioned by the wearing of the plaster jacket, comparatively little pain has been encountered, and this is attributed to the method of procedure.

RECORDING SPINAL CURVATURE AND THE DEFORMITY OF THE TRUNK—MENSURATION

After the patient has been carefully examined, both by the orthopedist and the internist, or the family physician, careful records of the case should be made. The patient should be placed in an accurate scoliometer; the general contour of the thorax and the distortion of the ribs, together with the general poise of the pelvis, should be recorded. The lateral deviation of the spine and the angles of the scapulae should be marked with India ink and photographed through a graduated screen (Figs. 11, 12, 15 and 16). With a carefully constructed scoliometer, the personal equation will be minimized and a thorough reading of the records is obtainable many months after the case has been recorded. The record taken by the scoliometer gives not only the contour of the thorax and the distortion of the ribs, but also the lateral deviation of the spine and the relation of the trunk at a given level to the pelvis.

I have described[1] the scoliometer at length, and have suggested a pelvithoracic triangle, which records the pelvic and any other cross-section of the trunk.

RECORDING BY MEANS OF ROENTGENOSCOPY

Roentgenoscopy has been advanced to such a degree that we can now hardly dispense with it whenever any question of deformity arises. It is becoming more and more standardized, and if the same apparatus is used each time it becomes a very valuable and accurate method of observing the spine. Especially is this true with regard to the condition of the lateral curve and rotation, as it shows the difference in the lumbar and dorsal rotation, as well as the displacement of the heart, diaphragm and, if one wishes, the stomach and intestines.

It has been said by some writers that they do not believe in roentgenoscopy relative to lateral curvature. This may be due to the fact that they either have not the equipment or do not wish to expend the energy and expense that is required to undertake this procedure.

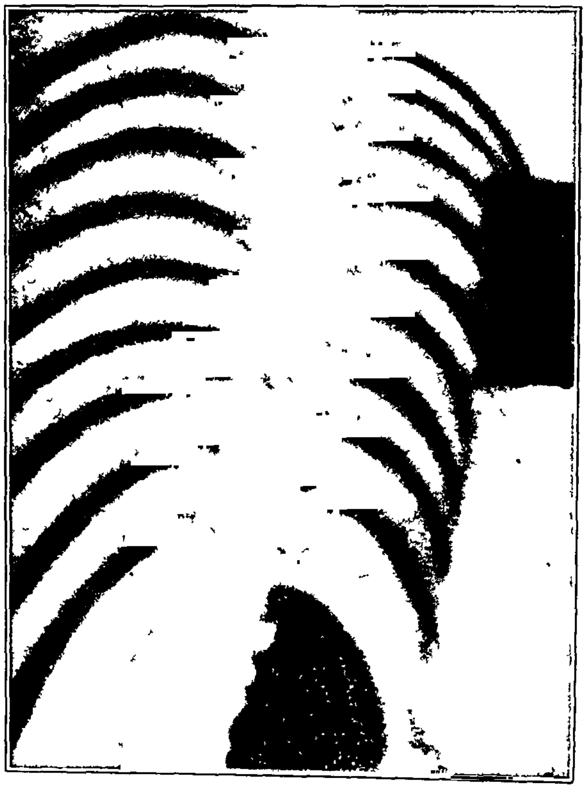

Fig 14—Roentgenogram taken in Case 5 after sixteen weeks' flexion treatment Compare with Figure 13, noting position of spine and separation of ribs

The comparative value of these records is clearly shown in Figures 13, 14, 19 and 20. It is commonly known that the spinous processes in lateral curvature do not give a true clinical indication of the actual condition of the spine. The spine is usually very much more curved than the casual examination of the patient indicates. This is due to the fact that the rotated bodies lie deeper and more to the convexity of the curve than the spinous processes do. Also, the spinous processes vary in length in different persons. This naturally is deceptive and must be guarded against by the orthopedist. It may also be easily recognized from the roentgenograms that the contour of the ribs changes. On the convex side usually we have sharp angular ribs, and on the concave side depressed, flat, adjoined ribs. After the first corrective jacket has been applied, the ribs on the concave side usually will show a tendency to separate and to assume a curved form, and conversely those on the convex side rotate and become less prominent. This can be observed only by means of roentgenoscopy.

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[1] Meisenbach, R O: Am Jour Orthop Surg, May, 1912

The patient is placed prone with or without the jacket. If the jacket is worn the roentgenoscope is slightly elevated to permit the photographic plate to pass beneath, so that the patient does not rest on the plate proper, but is suspended by the canvas stretcher (Fig. 9). The Roentgen-ray tube is placed in the median line and directly above the patient. The exposure may be made directly through the plaster jacket. Unless the spine, during the process of correction, is roentgenographed through the plaster jacket it will be difficult to arrange the padding satisfactorily and comprehensively; also, it will be difficult, or well-nigh impossible, to have a thorough understanding with regard to cutting the windows (Fig. 20) in the corrective jacket, which is most essential in the flexion treatment (Fig. 20).

Space will not permit the details of each procedure. If the method is pursued as described one can almost exactly state the amount of gain that is being accomplished; the position of the spine will at all times be known to the operator, and when the next jacket is to be applied the roentgenogram will be of great assistance to him in indicating the amount and position of the pressure and traction to be applied.

CORRECTING THE DEFORMITY AND THE LATERAL CURVATURE

After thorough study of the patient with the records which have been made, the patient should be placed in the most favorable condition for correction, as is the case in any procedure in which manipulation is to be undertaken. In the cases in which cardiac involvement is present, extreme precaution should be taken. Psychically, they should be placed in a hopeful frame of mind, and should not go to the operating-room without being sufficiently nourished. It has been my custom to secure perfect quiet on the part of the patient during the night before applying the first corrective jacket, also to explain freely to the patient the modus operandi, so that the sight of the complicated apparatus will not change the blood-pressure or pulse rate. The nurses and assistants should be well trained in team-work, so that the patient will be in the frame only a minimum time. After the patient is in the frame the procedure should continue uninterruptedly, and just before the tractions have been applied the Roentgen-ray tube should be applied over the patient with careful study with regard to the anatomic landmarks. In compound curves this is more essential than in total curves, as in the compound curves one may do much harm, especially after the second jacket has been applied. It is my rule to throw compound curves into total curves and then to correct the total curve rather than to attempt to correct both curves. In some compound curves the dorsal convexity can be corrected by correcting the dorsal curve, allowing the lumbar curve to adjust itself. This has been my experience in a few instances.

After the jacket is applied, the patient is placed face down on the truck, which has previously been heaped with pillows. The Roentgen ray should again be used at the time of cutting the posterior window. Those patients in whom there is a complication of heart disease should remain in bed for a day at least.

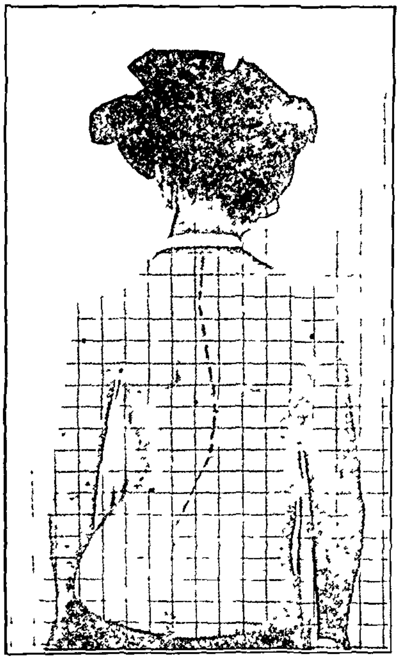

Fig. 15.—Photograph taken in Case 6 after one and one-half years' treatment by various methods.

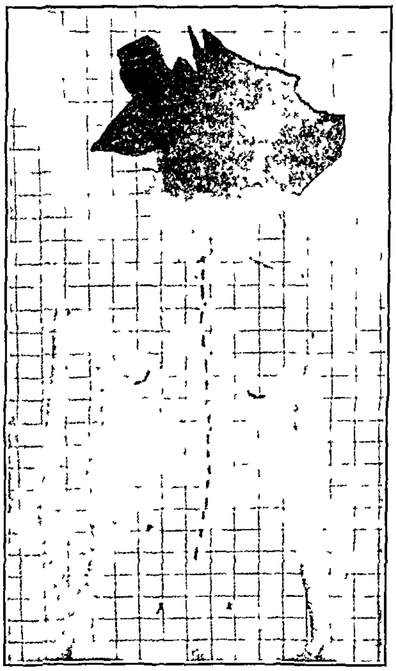

Fig. 16.—Photograph taken in Case 6 after seven weeks' flexion treatment. Note the change in trunk.

RESULTS OBTAINED

The question immediately arises: Shall we attempt to correct the severe types which are so frequently seen, those in which the spine is so curved and rotation so marked that the ribs have been forced into the iliac fossae, or in which the heart has been so displaced and the nerves so deranged as to cause the patient to be most apathetic and fretful? Many of these persons, either through experience or through the medical profession, have learned that their cases are probably hopeless; therefore, they look on any procedure with skepticism. I firmly believe that even in the severer cases, except in those in which the deformity is in the cervical region, the flexion treatment should be used, with a view to raising the ribs, increasing excursion and benefiting the general health, rather than to making the actual anatomic correction.

RECAPITULATION

1. The chief causative factors of scoliosis are muscular weakening, together with the anatomical construc-

tion of the torso. A lateral curve may be considered as a sequence rather than as a primary entity. It may be induced in many ways, through disease, posture, congenital defects or variation of the bony skeleton.

2. There are practically two types of backs, the flat and the lordotic. Each of these, occurring in children, must, according to Wolff's law, affect the anatomy of the torso.

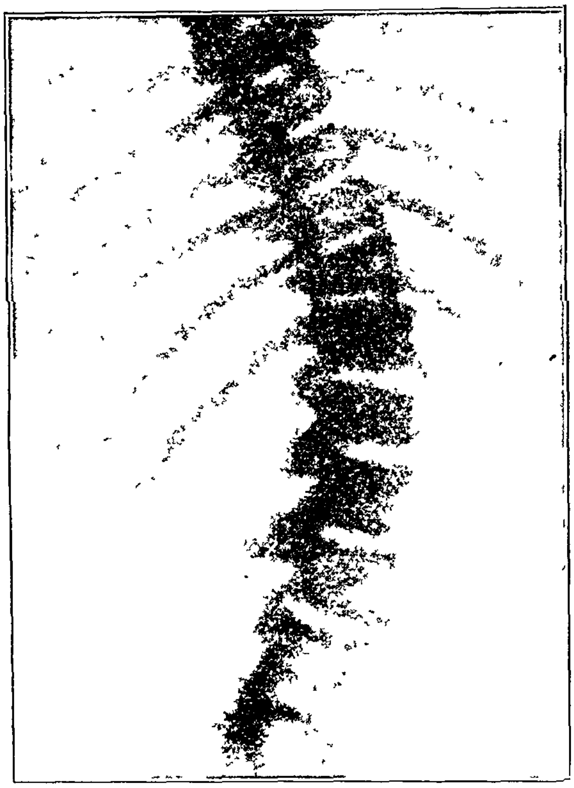

Fig 19.—Roentgenogram taken in Case 6 before flexion treatment began Note rotation in dorsal and lumbar vertebrae. Rotation in lumbar vertebrae almost one quarter round

3. The spinal action is closely allied to the anatomic construction, as is shown by the articular processes of the twelfth dorsal, the dorsal and the lumbar vertebrae.

4. Experiments on the cadaver, both with and without the Roentgen ray, show that hyperextension locks and flexion unlocks the spine; that in hyperextension the lumbar spine is completely locked, whereas the dorsal is only partially locked and admits some rotation. In forward flexion and side bending the spine is in the best position for correction and for the rerotating of a lateral curve.

5. There are three types of scoliosis, the congenital, postural and structural. The structural is the most difficult to treat, as it involves the consideration not only of the spine, but also of the viscera of the torso, and the general condition of the patient. In the fixed structural type the ribs and vertebrae have become deformed, the ligaments have contracted and the viscera are displaced. The postural type is a forerunner of the organic, and if left alone will cause bony changes and therefore should receive attention early.

6. In considering any case for treatment, complete records of the case should be made by means of special apparatus (the scoliometer), the anatomy of the patient should be studied by means of roentgenograms and the patient thoroughly gone over by the internist or the family physician. If this is done, the risk to the patient will be minimized, even in the severer types. The displacement of the heart, with heart-murmurs, together with symptoms of anemia or gastric disturbance, are not necessarily contra-indications for treatment, but it is often the case that these conditions and symptoms improve after the spinal correction has been undertaken. In some cases the percentage of hemoglobin is increased after correction. It is a common occurrence in patients afflicted with scoliosis and lack of excursion of the ribs to find suboxygenation resulting from the deformity. The excursion of the ribs can best be improved by the correction of the spinal deformity.

7. Since it has been proved that the spine can actually be rerotated and the deformed ribs remodeled, as it were, many of the cases which were formerly considered hopeless may now be much improved and straightened.

8. Persons with extreme scoliosis may be very much improved in regard both to the general health and to the deformity, and, therefore, should receive a careful consideration. The mild types, and even those which formerly were considered beyond help may now be anatomically corrected when skilfully treated.

9. The new method of treatment is comparatively rapid, and in some instances surprisingly rapid, when compared with the old methods, and pain is not necessarily in proportion to the deformity, but its absence in the process of correction depends much on the technic.

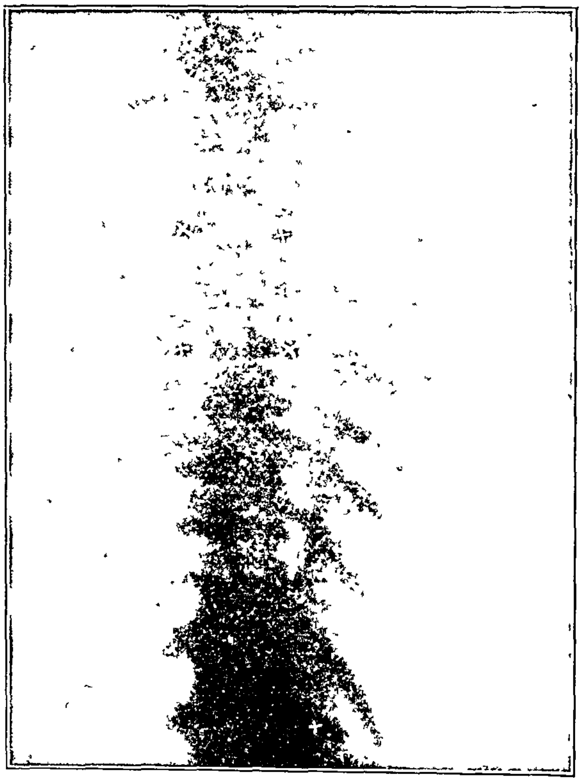

Fig 20.—Roentgenogram taken through plaster jacket in Case 6 seven weeks after correction. Window in jacket plainly seen. Spine is straight; vertebrae rerotated. Position of padding to be added is easily determined by means of such roentgenograms.

10. It is the duty of every practicing physician to look carefully over any doubtful cases which may suggest flatfoot, or any irregularity in posture, because these deviations from the normal may be forerunners of lateral curvature and, later on, of a severe deformity of the spine.

ABSTRACT OF DISCUSSION

Dr. John L. Porter, Chicago: Dr. Meisenbach seems to be working out the same problem that all of us are concerned with in scoliosis, trying to find the best method of technic for carrying out the ideas that Dr. E. G. Abbott of Portland, Me., gave us. Dr. Abbott told me that he learned something every time he put on a new cast. I find that characteristic of my own work. I have treated fifty-seven cases by the Abbott method, and have not put on any two jackets alike. I have learned something new every time I put one on. The great function of the Committee on Scoliosis of the American Orthopedic Association is to help us to standardize our methods of recording indications and of analyzing and sifting what little we all learn, as we try to do this work.

HYGROMA CYSTICUM COLLI AND HYGROMA AXILLARE *

OLIVER C. SMITH, M.D.
Surgeon to the Hartford Hospital
HARTFORD, CONN.

Case 1.—*History.*—My first case of hygroma cysticum colli, or at least the first one in which the condition was recognized, occurred in J. R., aged 12, of Winsted, the patient being referred to me by Dr. David Reidy. The family history was irrelevant. The patient had pneumonia at 9 and meningitis at 18 months. At 2½ years a swelling in the left cervical region was noticed; at 10 years, following a blow by a snowball, the growth enlarged more rapidly. He was a well-developed, wholesome-looking, normal boy of good color. The physical examination was practically negative, except that a large cystic tumor existed in the left cervical region, extending from the lobe of the ear nearly to the clavicle (Fig. 1). There were no enlarged lymph-nodes. Diagnosis: cyst of undetermined character.

Operation.—July 31, 1911, at the Charter Oak Hospital, a curved incision was made just below the ear downward, forward and upward, the flap dissected and a thin-walled multilocular cyst exposed. The anterior jugular vein was ligated, and the branches of the facial nerve exposed and protected. The cyst was found intimately connected with the parotid gland, its upper attachments being in close proximity to the styloid process, and was removed intact. It contained a clear, watery fluid. The wound healed primarily, and there has been no recurrence.

Pathologic Report (by Dr. Henry C. Russ).—Macroscopic Examination: Specimen consists of a collapsed cyst from the neck, the contents having escaped. The cyst measures 7 by 3.5 cm.; its wall is tough and fibrous, though quite thin. The cavity is lined by a shiny membrane. The inner wall is much trabeculated and shows numerous pouches of varying size communicating with the main cavity, giving the whole a very multilocular appearance.

Histologic Examination: The membrane lining the cyst is composed of flattened endothelial cells arranged in a single layer. The wall outside is made up of fibrous tissue and fat. In the fibrous tissue are numerous capillary blood-vessels and lymph-spaces, the latter varying much in size, some being large enough to merit the name of small cysts. Scattered also in the fibrous tissue are numerous small areas of lymphoid cells. Surrounding the main cyst cavity in a narrow zone are small bundles of fibers morphologically like smooth muscle cells (Figs. 2 and 3).

Case 2.—*History.*—The second case, in a man aged 20, a student, referred by Dr. A. E. Abrams, came under our observation July 15, 1913. The family history is irrelevant. The patient has never been seriously ill. In September, 1912, he noticed a tumor in the left axilla which has grown steadily and is of large size; is soft, not movable or tender. He is a good-sized, well-nourished, wholesome-looking boy with practically negative physical examination, except a large, fluctuating, oblong-shaped tumor in the right axillary space extending below the nipple line, 15 cm. in length and 8 cm. in breadth. Diagnosis: hygroma cysticum axillare.

Operation.—July 15, 1913, at the Hartford Hospital, a vertical incision was made over the tumor. When the skin and fascia were incised a very thin-walled multilocular cyst tensely distended with watery fluid was exposed and readily dissected from its upper attachments under the clavicle to its lower extremity at the eighth rib. From 250 to 300 c.c. of fluid were contained in the various compartments of the cyst. The incision was closed without drainage. A hematoma formed which delayed somewhat the process of repair. Recovery, however, was satisfactory, the wound healing kindly. Up to the present there has been no recurrence.

Pathologic Report (by Dr. John Carter Rowley).—Macroscopic Examination: A sac of thin tissue 10 cm. long and 4 cm. in diameter. The walls of the sac are very thin and grossly present no abnormal structure. Specimen shows two lymph-nodes, fat and tissue, and apparent remains of cyst wall lined with endothelial cells.

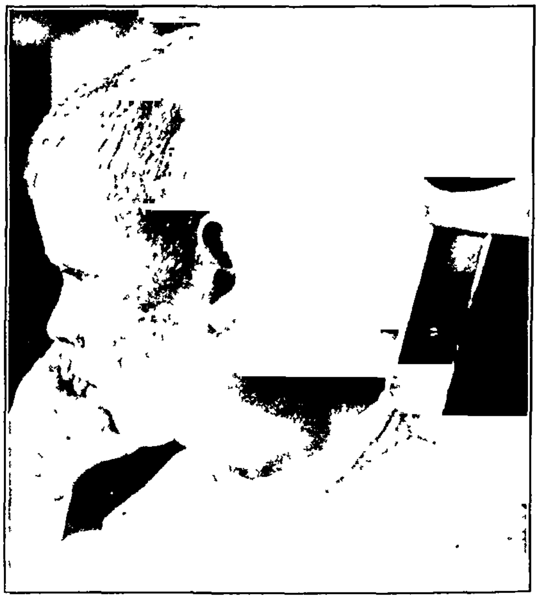

Fig. 1.—Patient (Case 1) with hygroma cysticum colli.

Case 3.—*History.*—Since the two preceding cases were reported a third case of hygroma cysticum has come to my notice. The patient (Fig. 4) was operated on by Dr. Arthur M. Rowley, visiting surgeon at the Hartford Hospital, by whose kind permission I am allowed to report it at this time. The operation was performed Oct. 7, 1913. The patient, a girl baby, R. M., aged 14 days, referred by Dr. H. J. Onderdonk, East Hartford, Conn., was delivered instrumentally without untoward incident and is breast-fed. At the time of birth a swelling in the left axilla the size of an English walnut was observed. The mass grew rapidly, extending downward.

Physical Examination.—The child is healthy looking, of normal size and good nutrition, with skin and mucous membranes of good color. Examination of lungs, heart and abdomen is negative. The fontanels are flat, not enlarged. There is no epiphyseal enlargement of long bones. Extending from clavicle to 2.5 cm. below the left nipple, and from midclavicular line to slightly beyond the posterior axillary line is a lobulated non-inflammatory tumor the size of a medium orange. It is slightly movable at the chest wall. The skin over it is adherent and has a few small lobules. The lobulations have no pulsations. Axillary lymph-nodes are not enlarged. There is edema of the arm. Diagnosis: hygroma cysticum axillare.

Operation.—Oct. 7, 1913, at the Hartford Hospital, under chloroform anesthesia a 10 cm. incision extending from the anterior axillary line downward and mesially over the tumor was made. A large, thin walled, multilocular cyst containing clear serous fluid arising from the fascia of the apex of the axilla and attached to the skin was removed intact. Axillary vessels were exposed, and the fascia of the pectoralis major under the tumor removed. Skin was closed with horsehair sutures without drainage. Primary union and prompt recovery followed.

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* Read before the Surgical Section of the Hartford Medical Society, Nov. 24, 1913.

Pathologic Report (by Dr. John Carter Rowley).—Macroscopic Examination: Specimen removed from the left axilla of infant R. M. consists of a mass 5 by 8 cm. of thin-walled cysts containing clear, serous fluid. The cysts vary in size from 1 or 2 mm. to 4 cm. in diameter. The cyst walls are smooth and glistening and of a pearl color with numerous subsidiary sacs projecting from the larger ones. The walls of the cysts are of fibrous tissue with here and there strands of fat.

Histologic Examination: Section shows many cysts of various sizes in supporting structure of connective tissue. The connective tissue is very vascular with a few small areas of extravasated blood and clumps of fat-cells. The cyst walls in places are lined by a thin layer of endothelial cells. In most places this is lacking.

The literature on hygromas is meager, and the nomenclature is confusing. The term has been applied among other conditions to collections of fluid in synovial cavities and tendon sheaths, but is now rarely used to describe these conditions and is understood to mean a thin-walled, multilocular cyst containing clear fluid, lined with endothelial cells and possessing unusual tendency to grow. Such cystic growths are comparatively rare.

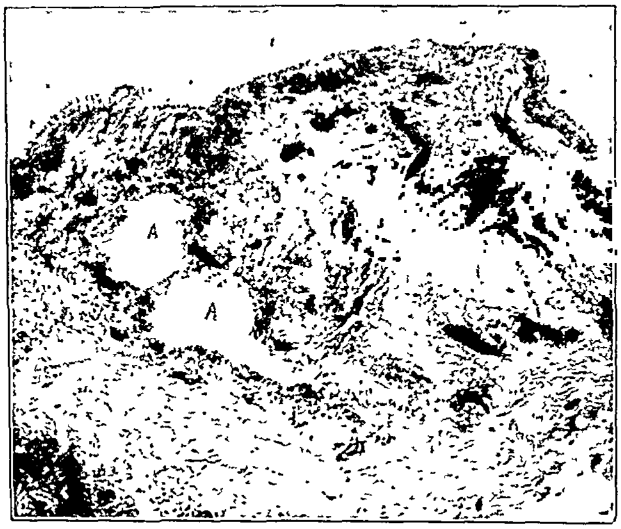

Fig. 2.—Wall of hygroma; low-power magnification. Upper margin is inner endothelium-covered wall of cyst cavity; *A*, *A*, lymph-spaces in wall of hygroma.

Dowd[1] has made a careful compilation of the statistics after a thorough search of foreign and domestic literature. Ninety-one cases of hygroma cysticum colli, thirty-five cases of hygroma cysticum axillare, and eleven cases of hygroma cysticum (general) were collected, and these were all that could be found. Adding Dowd's three cases of hygroma cysticum colli to the table which he compiled, and the two cases of hygroma cysticum colli herewith reported, brings the number up to ninety-six. Dowd's case of hygroma cysticum thoracis would bring the table of hygroma cysticum (general) up to twelve. The two cases of hygroma cysticum axillare herewith reported would bring that class up to thirty-seven.

These tumors vary in size from small affairs to enormous disfiguring growths, usually occurring in the neck and sometimes extending downward under the clavicle, penetrating the mediastinum or passing under the clavicle into the axilla or pectoral regions. They are frequently congenital and are usually seen in children. Dowd says that the most satisfactory explanation of the existence of these hygromas is that embryonic sequestrations of lymphatic tissue existed and that they had the power of persistent regular growth.

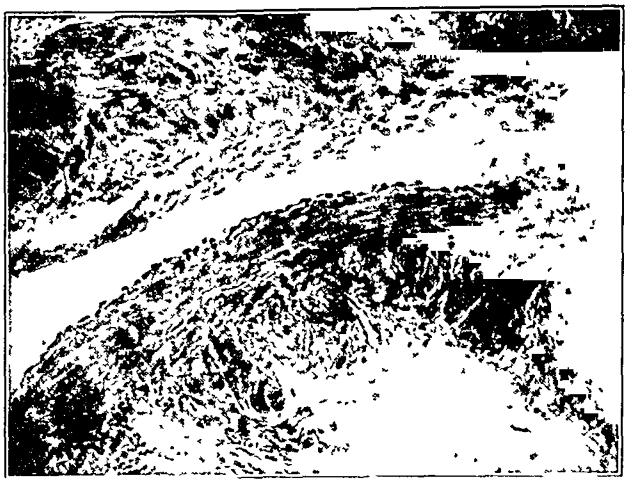

Fig. 3.—Diverticulum in wall of hygroma showing endothelial lining; high-power magnification

Adami, in his work on pathology, says that we must suppose that with increasing distention there has been a closing of the channel of which they are a dilatation; that the endothelium has grown *pari passu* with the dilatation, and that this endothelium has secretory powers. The mere force of the lymph flow cannot explain such extreme development; we have to assume active excretion, which, indeed, is indicated by many other considerations and actual experiments.

The operative rarity of these cases is responsible for incorrect diagnoses. Undoubtedly such cysts have been removed and classified as of branchial or thyroglossal origin. As they grow to enormous size they are most disfiguring and do not tend to spontaneous recovery. Their early recognition and careful dissection is important.

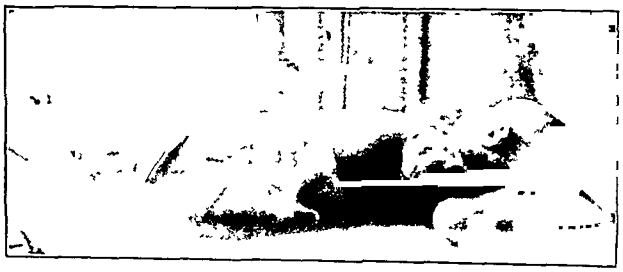

Fig. 4.—Patient (Case 3) female; aged 14 days, with hygroma cysticum axillare

I wish to express my appreciation to Dr. A. J. Wolff for the photomicrographs of Case 1, and to Drs. Henry C. Russ and John Carter Rowley for their pathologic reports.

44 High Street.

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[1] Dowd, Charles N.: Hygroma Cysticum Colli: Its Structure and Etiology, Ann. Surg., 1913, lviii, 112

ACTION OF THE NITRITES ON THE ISOLATED SURVIVING PULMONARY ARTERY

PRELIMINARY NOTE*

DAVID I. MACHT, M.D.
Instructor in Medicine, Johns Hopkins University Medical Department
BALTIMORE

The regulating mechanism of the "lesser" or pulmonary circulation, and in particular the vasomotor control of the lungs, is a problem which for a long time engaged the attention of some of the most skilful physiologists and may still be regarded as not entirely settled. Thus, for instance, while Openchowski,[1] Knoll,[2] Brodie and Dixon,[3] and recently Baehr and Pick,[4] doubt the existence of pulmonary vasomotors, Bradford and Dean[5] declare that such fibers are found, though rather poorly developed, and François-Frank,[6] Plumier[7] and Wiggers[8] stoutly maintain the presence of an efficient pulmonary nervous control. Still less is known in regard to the action of *drugs* on the pulmonary vessels. The study of this subject was approached by two chief methods: the one by recording changes in pulmonary arterial and venous blood-pressures the other by estimating the amount of fluid perfused through the lungs. Both methods are complicated, exposed to many sources of error, and give results difficult of interpretation. Thus epinephrin, about the only drug which has been studied in this connection, is said by some to have no effect on the pulmonary vessels at all, by others to produce vasoconstriction, and by still others to cause a dilatation.

I have for some time been engaged in testing the action of various pharmacologic agents on surviving rings or strips of the pulmonary artery, a method which in the case of the lungs has never been systematically tried. This method, through eliminating all other factors present in the living body, has the advantage of being clear-cut and affording information as to the effect of drugs directly on the artery alone. Within recent years the idea has been gaining ground that a drug may possess different and even opposite actions on the blood-vessels of different organs, not in the sense of a constriction in one set of vessels causing a greater flow of blood to another region and so passively enlarging the vessels there, but in the sense of constrictor or dilator effects being *actively* induced by the drug itself. For instance, it is well known that various digitalis bodies in moderate doses will produce a constriction of the splanchnic vessels and at the same time an active dilatation of the renal arterioles,[9] and again it has been shown by Janeway and Park[10] and others that epinephrin, while being a powerful vasoconstrictor, has a dilator effect on the coronary artery. It was with the hope of possibly finding analogous conditions in the case of the pulmonary artery that the research was undertaken.

METHOD

The apparatus employed was very much the same as that used by Voegtlin and myself,[11] which is a modification of the original method of O. B. Meyer,[12] in studying the action of drugs on the coronary arteries. Rings, or more often in this research, strips of the medium-sized branches of the pulmonary arteries of pigs and oxen were used. Great care must be taken in dissecting the vessels not to overstretch or tear them. If freshly dissected and kept in Locke's solution in the ice-chest, the arteries survive two or three days or even longer. The best results, however, are obtained by using the arteries not more than twenty-four hours old. A single strip from 0.5 to 1 cm. long and from 3 to 4 mm. wide is quite sufficient to give demonstrable results.

The preparation is suspended in a small glass chamber filled with warm Locke's solution at the temperature of 37 C. (98.6 F.), through which a constant stream of oxygen is kept bubbling. One end of the arterial strip is fixed to the bottom of the chamber, while the other is connected to the short arm of a lever, the longer arm carrying a point for recording on a very slow kymograph. The glass chamber is immersed in a water-bath or jacket for regulating the temperature. Great care must be taken to keep the temperature and flow of oxygen constant.

The most difficult part of the experiment is the so-called "weighting" of the preparation, which for each kind of artery must be learned by practice. The artery when excised is in permanent contracture or "tonus," and the tonus must be overcome before its reaction to drugs can be studied. To do this a stretching load is attached to the long arm of the lever and the artery weighted or stretched until the tonus is overcome. This usually takes from fifteen to twenty minutes. After the artery has been relaxed, the stretching weight is taken off and a permanent or lifting weight is attached. Owing to the much poorer musculature of the pulmonary artery, the lifting weight was found to be much less than that required for the carotid or coronary. Whereas in case of the coronary the lifting weight is usually from three-fifths to two-thirds of the stretching weight, for the pulmonary it was found that a lifting weight which was from one-sixth to one-fourth of the stretching weight was the most suitable.

ACTION OF THE NITRITES

The action of many drugs—epinephrin, digitalin, digitonin, digitoxin, bufagin, atropin, ergotoxin and others—on the pulmonary arterial strip was tested. The effect of these different pharmacologic agents will be described in a later paper. I wish here to mention only the effect of the nitrites. The action of this group of drugs was found to be so remarkable and also of such practical interest that it was deemed worth while to describe it in this preliminary note.

Sodium nitrite, nitroglycerin, erythrol tetranitrate and amyl nitrite were each and all found to produce a *contraction* or constriction of the pulmonary arterial strip. This remarkable action of the nitrites, which have always been known as typical vasodilators, though unexpected, probably holds good in the living body too, as corroborated by some indirect evidence gathered by other observers. Bradford and Dean, observing simultaneously the blood-pressures in the carotid and pulmonary arteries of dogs, noted a rise of pulmonary pressure after administration of nitroglycerin and amyl nitrite, which they erroneously attributed to "an action on the heart in such a manner as to weaken the efficiency of the left side so as to lead to the accumulation of blood in the right side." H. C. Wood, Jr.,[13] also by the blood-pressure method, noted a rise of pulmonary pressure after amyl nitrite, which he strongly suspected as being probably due to a pulmonary vasoconstriction. To quote his words, "It would seem almost proven by exclusion that the cause of the rise of pressure in the lesser circulation can be due only to contraction of the pulmonary blood-vessels." Finally, a French observer, Petitjean,[14] studying changes in pulmonary blood-pressure, and at the same time controlling his observation "colorimetrically" by direct inspection of the exposed lungs, also noted a rise in pulmonary blood-pressure and a blanching of the lungs after the same drug. It will be seen that the observations of all these investigators would tend to speak for a vasoconstrictor action of the nitrites.

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* From the Departments of Pharmacology and Medicine, Johns Hopkins, University.

[1] Openchowski: Arch. f. d. ges. Physiol. (Pflüger's), 1882, xxvii, 233.

[2] Knoll: Sitzungsber. d. k. Akad., Wien., 1890.

[3] Brodie and Dixon: Jour. Physiol., 1904, xxx, 476.

[4] Baehr and Pick: Arch. f. exper. Path. u. Pharmakol., 1913, xxiv, 66.

[5] Bradford and Dean: Jour. Physiol., 1894, xvi.

[6] François-Frank: Arch. de physiol., 1895.

[7] Plumier: Jour. de physiol. et pathol. gén., 1904, vi, 655.

[8] Wiggers: Jour. Pharmacol. and Exper. Therap., 1909, i, 341.

[9] Jonescu and Loewi: Arch. f. exper. Pathol. u. Pharmakol., 1908, lix, 71.

[10] Janeway and Park: Jour. Exper. Med., 1912, xvi, 541.

[11] Voegtlin and Macht: Jour. Pharmacol. and Exper. Therap., 1913, v, 77.

[12] Meyer, O. B.: Ztschr. f. Biol., 1906, xlviii, 352.

After the effect of the nitrites on the arterial strip suspended in Locke's solution had been studied, the experiment was repeated, in order to approximate more to the condition in the living animal, by suspending arterial strips in blood-serum. Here too the same effect was observed. Finally the action of the nitrites was tested on strips of human pulmonary artery obtained from a fresh necropsy, and here too a vasoconstrictor effect was observed. It may be mentioned here that if preserved in fresh Locke's solution and kept in the ice-chest, I have seen such an artery respond to drugs twenty-five days after the post-mortem.

In view of the foregoing observations, it will be seen that in causing a constriction of the pulmonary vessels and at the same time being efficient peripheral and splanchnic vasodilators, the nitrites meet the ideal requirements for therapeusis of pulmonary hemorrhage. Turning to clinical data, we find even there already some evidence of that being true. Francis Hare[15] in 1906 reported nine cases of hemoptysis successfully checked by amyl nitrite. Rouget[16] in 1905 reported ten similar cases. Grace-Calvert[17] in 1907 speaks of having employed it successfully in pulmonary hemorrhage twenty times, and a few other cases are mentioned by Colman,[18] Smith[19] and Georges Bouilard.[20]

It is to be hoped that my observations may contribute to more rational therapeusis of pulmonary conditions.

The vasomotor action of the nitrites here described is not only interesting from the practical point of view, but also raises an equally interesting question as to the physiologic and pharmacologic explanation of that phenomenon. That is a subject, however, which I shall not discuss in this place, but which I hope to touch on in the fuller paper to appear in the *Journal of Pharmacology and Experimental Therapeutics.*

3218 Auchentoroly Terrace.

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13. Wood, H. C., Jr.: Am. Jour. Physiol., 1902.
14. Petitjean: Jour. de physiol. et de path. gén., 1904, vi, 655.
15. Hare, F.: Lancet, London, 1906, ii, 1435.
16. Rouget: Bull. et mém. Soc. Méd. d. hôp. de Paris, 1905.
17. Grace-Calvert: Lancet, London, April 6., 1907.
18. Colman: Scott Med. and Surg. Jour., May, 1905.
19. Smith, E. T.: Australian Med. Gaz., June, 1906.
20. Bouilard, Georges: Thèse, Paris, 1906.

Self-Preservation.—A knowledge of the laws of life is more important than any other knowledge whatever. . . . A knowledge which subserves direct self-preservation. by preventing loss of health, is of primary importance.—Herbert Spencer.

THE ENERGY INDEX

CARDIOVASCULAR ENERGY AS INDICATED BY THE ARTERIAL PRESSURE PER MINUTE

JOSEPH H. BARACH, M.D.
PITTSBURGH, PA.

Thus far we have had no reliable method for estimating the functional capacity of the heart, although much has been written on the work done along this line, nor have we a certain and easily applicable method for determining the velocity of the blood. Aside from these, we need an index to the intravascular tension and to the amount of energy which the circulatory system expends in the course of a minute, an hour or a day. We need these particularly when we are dealing with cases in which the heart or the blood-vessels are endangered.

The best means which we have at present for determining the expended energy of the circulatory system is the use of the mercury manometer. With this instrument, by the auscultatory method, we can accurately measure the arterial pressure at the time of systole and at the time of diastole of the heart. The systole gives us the energy factor in the work of the heart. The diastole gives us the energy factor in the peripheral resistance. From the pulse-rate we know how many systoles and how many diastoles to each minute there are in the arterial tree.

For example, if the maximum pressure is 120 mm. Hg, the minimum pressure 70 mm. Hg and the pulse-rate 72 per minute, the exertion in one minute would be:

In systole .... 120 mm. Hg × 72 = 8,640 mm. Hg
In diastole .... 70 mm. Hg × 72 = 5,040 mm. Hg
In both ...... 190 mm. Hg × 72 = 13,680 mm. Hg

This, according to the most practical means we have, represents the total effort exerted per minute by the cardiovascular system. We may call it the energy index or S. D. R. index.[1]

The advantages of this method of indicating the expended energy of the cardiovascular system are that we are not deceived by the high maximum pressure when it is combined with a relatively low minimum pressure, or vice versa. It is a well-established clinical fact that the two pressures do not always tend in the same direction, and that one or the other may rise or fall.

Also in this method, we do not neglect to consider the pulse-rate, which is an absolutely necessary element in properly estimating the expended energy of the cardiovascular system in a given length of time.

Judging by the clinical reports of the present day, the pulse-rate heretofore has largely been left out of this consideration. It is true that the number of pulse-beats per minute is not the greatest factor in producing high blood-pressure; but that each ventricular systole plays its part in the total blood-pressure is obvious, and that a greater number of systoles represents a greater total energy expenditure and a greater wear and tear is also clear enough. It is the last-mentioned factor particularly which we may aim at estimating in our clinical work, and for which the S. D. R. index is most useful.

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[1] This method for obtaining an index to the cardiovascular energy is so simple that when its utility occurred to me I scarcely thought it possible that it had not been suggested long ago. In a search through the literature at my command, I have not, however, been able to find it. Certain it is that it is not a recognized method, which I believe it deserves to be.

If we were to take into consideration the duration of the systole and the diastole in every case, our calculations would be still more representative of the total cardiovascular energy. According to Tigerstedt, in the normal person the average duration of the systole is from 0.19 to 0.382 second, and the diastole is 0.4 second. But the cases in which this would be an important clinical factor are the exceptions, although with the recording instruments, the actual time of both systole and diastole can be determined readily. On the other hand, absolute values would not necessarily aid us greatly in our diagnosis, prognosis or treatment. What we need for our every-day work is an index, and a point for the normal; after that our values are just as useful, so long as they are relatively true.

How enlightening this method is may be inferred from the findings in a series of 289 young men between the ages of 15 and 30 years (Table 1). There were 41 cases in which the maximum pressure ranged between 110 and 120 mm. Hg. Ordinarily, we should pass this over without much consideration; but on comparing the extremes of cardiovascular energy in this series, and in the subsequent ones, we soon see that the maximum pressure alone, on which most reliance has heretofore been placed, gives us not even an inkling of what is going on.

TABLE 1.—TOTAL ENERGY INDEX IN TWO HUNDRED AND EIGHTY-NINE CASES

Group	Total No. Cases	Maximum Blood-Pressure mm. Hg.	Extreme Instances	Maximum	Minimum	Pulse	Total Energy Index mm. Hg. per Min.
1	41	From 110 to 120	Case A	115	52	72	12,024
			Case Z	110	88	124	24,552
2	99	From 120 to 130	Case A	124	68	68	13,056
			Case Z	125	100	120	27,120
3	76	From 130 to 140	Case A	138	90	64	14,592
			Case Z	132	118	132	33,000
4	43	From 140 to 150	Case A	142	85	60	15,436
			Case Z	148	98	120	29,520
5	26	From 150 to 160	Case A	150	90	76	18,240
			Case Z	150	115	88	27,440
6	4	From 160 to 170	Case A	164	110	68	18,632
			Case Z	162	80	120	29,040

Case A and Case Z in each group are examples of the extreme cases in that group. Whether in Case Z of each of the groups the increased activity was physiologic or not, temporary or constant, is to be determined by reexamination and by other means. That there was present at the time of the examination a marked increase of activity over Case A, and how much the increase amounts to, can be determined best by utilizing the S. D. R. index—the energy index.

In Table 2 is presented a series of 116 normal cases in which the pulse-rate did not exceed 90 beats, and the minimum pressure did not exceed 100 mm. Hg.

TABLE 2.—TOTAL ENERGY INDEX IN ONE HUNDRED AND SIXTEEN NORMAL CASES

Maximum Pressure mm. Hg.	No of Cases	Average Total Energy, mm. Hg.
From 100 to 120	16	15,196
From 120 to 130	59	17,086
From 130 to 140	22	17,450
From 140 to 150	12	18,722
From 150 to 160	7	20,705

Judging by Table 2 and in the light of what is known to be the normal maximum, the normal minimum pressure and the pulse-rate, it appears that the highest energy index in the normal person is close to 20,000 mm. Hg per minute.

For the sake of simplicity, I believe that it does not involve too great an error to strike off the last two figures of our totals and to say that in a given case the energy index is 151 or 170, as the first two total energy indexes in the series would show. Or we may designate the degree of hypernormal expenditure by the percentage of increase over 20,000. Thus a case with a total energy index of 30,000 may be designated as showing a 50 per cent. increase, and so on.

I have picked out of my records of the past year ten cases of advanced cardiovascular and renal involvement. These patients were all seriously ill, and recognized as such from the start. Up to the present time five of them have had apoplectic strokes. Cases 4, 8, 9 and 10, which are the younger patients of the series, each show an extraordinary amount of total energy expenditure per minute, and judging by their present symptoms, it seems only a matter of a comparatively short time until either the heart or a blood-vessel will give way, although we do occasionally see patients with very high pressure maintaining their health for long periods.

TABLE 3.—THE TOTAL ENERGY INDEX IN HYPERTENSION

Case No.	Age	Max.	Min.	Pulse-Rate	Total Energy	Remarks
1	66	182	100	74	20,868	Six months later, cerebral hemorrhage.
2	63	164	100	90	23,760	Eight months later, cerebral hemorrhage.
3	69	192	176	66	24.288	Six months later, cerebral hemorrhage.
4	50	235	120	84	29,820	Symptoms of threatened cerebral hemorrhage.
5	51	235	120	84	29,820	Six months later, cardiac failure.
6	59	220	140	84	30,240	One month later, cerebral hemorrhage.
7	54	200	140	108	36,720	One month later, cerebral hemorrhage.
8	52	220	160	96	36,480	Symptoms of cerebral angiospasm
9	35	180	145	120	39,000	Chronic nephritis; albuminuric retinitis.
10	56	280	140	120	50,400	Serious symptoms of cerebral arteriosclerosis.

A review of the figures in Table 3 makes it at once apparent how important it is that we include the complete triad—the maximum pressure, the minimum pressure and the pulse-rate—in order that we may obtain a definite idea of the cardiovascular energy expended, and of the strain under which the heart and the blood-vessels are laboring.

4502 Fifth Avenue.

THE PRACTICAL SIDE OF DERATIZATION WITH FLUE-GAS

WITH SPECIAL REFERENCE TO THE PORT OF PHILADELPHIA

M. E. BERKOWITZ,
Pharmacist, United States Public Health Service
PHILADELPHIA

Although many writers have discussed the problem of fumigating vessels by the use of sulphur or its dioxid, very little seems to be known or written about the use of flue-gas for the destruction of rats on vessels. Surgeon W. G. Stimpson and Passed Assistant Surgeon Norman Roberts of the Public Health Service have written on this subject regarding the composition of flue-gas and its efficiency and use. The present article will treat of its practical application.

When a vessel is inspected at quarantine and requires fumigation, a letter of instructions is given to the captain, and arrangements made through the local agents for her fumigation at the anchorage or dock as soon after her arrival as possible. A card is then filled out with the necessary data concerning the vessel and filed for future reference.

Coke is the agent employed for the production of the gas, and is burned in the furnace of the boilers of the quarantine vessel. It is spread evenly and to a depth of from 8 to 12 inches over the fire. A pipe leading from the side of the smoke-stack conveys the flue-gas to a tank in which the gas is cooled and washed. A blower operated by a turbine not only produces a forced draught and draws the gas into the washer, but also blows the gas through an upright pipe leading above the deck of the quarantine vessel, at which point connections are made with hose used to convey the gas to the vessel to be fumigated.

The personnel of the fumigating force consists, in addition to the crew of the quarantine vessel, of the officer in charge of the fumigation and two attendants. One of the attendants is assigned to the forward part of the vessel and the other to the aft, the engine-room being the dividing line. The attendants inspect the vessel and determine what connections are to be made, see that all compartments are properly prepared and act as watchmen to prevent accidents from the use of the gas.

Great care must be exercised in seeing that no one remains in the stoke-hold or engine-room during the fumigation. When the forecastle is being prepared, a careful search must be made in each bunk to make certain that no member of the crew is asleep, and all ports must be closed but not bolted. When there is a connection between the forepeak and forecastle, all hatches of the former compartment are opened, and this entire section is fumigated at one time. In the fumigation of compartments that have connecting doors, these are opened to allow the gas to be thoroughly diffused and make it possible to fumigate that particular section of the vessel without making more than one connection. All hatch-covers of holds must remain in place until after the fumigation. As the opening to the forecastle is usually not fitted with a door, a canvas cover must be provided.

The paraphernalia used in fumigation consists of canvas hose, metal pipes, a metal cone, a canvas apron with a hole of suitable size in the middle for inserting the hose, and a lantern, The cone is intended for use at port-holes that are either of smaller or larger diameter than the hose. The metal pipe is usually used when it is desirable to make a single connection between the side of a ship and hold. When openings are not fitted with suitable covers the apron is used.

The process of fumigation is as follows: After all connections have been made the blower is started, drawing approximately 1,500 cubic feet of gas from the furnace and forcing it into the compartment to be fumigated. An opening is provided at a point as nearly as possible opposite that at which the gas is being introduced, for the escape of air forced out by the gas. The lighted lantern is then lowered into the compartment to ascertain whether the gas is being properly diffused, the gas extinguishing the light when of sufficient strength on reaching the level of the lantern.

After the lantern is extinguished all openings are closed and the blowing continued for from five to ten minutes; the compartment is kept closed for from one-half to one hour, depending on the particular conditions. When compartments used for living-quarters are being fumigated, formaldehyd gas is introduced with the flue-gas to act as a warning to any one remaining therein.

Hatch-covers and ventilator-covers are removed after sufficient time has elapsed, the ventilators turned to the wind, and all doors, ports and other openings of living-quarters are opened. To determine whether or not a compartment is safe and free from gas the lighted lantern is again used, being lowered into the compartments or placed near the doors, and no one allowed to enter while the light is extinguished. When the light remains burning brightly for a short time, the compartment is considered safe for occupancy or ready for unloading. When little or no ventilation is provided in a compartment, the blowing of the gas is continued for a longer period than usual, and then fresh air blown in, which causes sufficient diffusion to expel all the gas.

While the vessel is being fumigated, the officer in charge of the fumigation inspects the life-boats for rats or rat signs. If any are found the chief officer is instructed to have metal covers made to fit the davit-lines similar to those used around the anchor-chains, and to have all holes in the covers repaired.

After the fumigation is completed, the captain or chief officer is given a blank form on which he is requested to note the number of dead rats found after his vessel has been cleaned, and return the form to the local quarantine office, he is also instructed to have all dead rats burned, unless collected for examination. The officer in charge of the fumigation completes a form relative to the fumigation which is filed at the office for the information of the medical officer in charge of the station, and as a record in the event of an accident occurring during the fumigation.

At the close of each week a report of the vessels fumigated, their port of departure, cargo, method of fumigation and the number of dead rats reported, is forwarded to the bureau, and the cards are then filed in an alphabetical order.

NOTES

The equipment for a vessel engaged in fumigating with flue-gas should include a pulmotor and an oxygen helmet; also an Orsat apparatus for testing the carbon monoxid content of the gas. The use of live rats, from time to time, as a control in the work is also greatly recommended.

The length of time necessary to complete a vessel depends on size, construction, means of ventilation and time necessary to make and change connections. The average is about three hours for a loaded freight-vessel, and about two hours for the usual size fruit-boat when unloaded.

If it is intended to begin unloading immediately after the fumigation, attention is first given to the holds. The gas will penetrate easily and kill all rats in a compartment, and as it is unlikely that a rat will come on deck during the day, it is safe to finish one part of a vessel and allow it to be opened for the escape of the gas while another is fumigated. When two connecting holds are separated by a wooden bulkhead, it is better to do each compartment separately, rather than allow the gas to diffuse through the bulkhead. If there are small compartments in a vessel not connected with one which is being fumigated, a careful search is made, and if there is no possibility of a rat being harbored therein, this compartment may be exempted from fumigation.

NOTE: Since the preceding article was written the quarantine steamer *Neptune* has been equipped with a Schutte and Koerting type of the Harker fumigating apparatus capable of delivering three thousand cubic feet of flue gas per minute, which reduces considerably the time required for fumigating a vessel. Vessels requiring fumigation are now treated at quarantine before being allowed to dock.

BASIC FUCHSIN IN SURGERY

ITS WIDE RANGE OF USEFULNESS

W. H. DONNELLY, M.D.
BROOKLYN

In the work of treating the employees of a rapid-transit system employing almost 15,000 men, perhaps the commonest chronic condition we have to deal with, and also one of the most unsatisfactory, is ulcer of the leg.

It is so common among surface-car motormen that it has come to be known as "motorman's leg."

In considering the etiology of this condition, after excluding constitutional conditions and trauma, one is struck by the fact that motormen are very prone to it, while the conductors are comparatively free.

Of course the explanation is simple. The average motorman is obliged to stand in one spot for hours at a time, and the only rest he obtains is by transferring his weight from one foot to the other from time to time. Thus he does not have the stimulation to venous return of circulation in the leg caused by muscular action—which is obtained by the comparatively small amount of walking done by his mate, the conductor.

The average motorman who has been in the service for five years or more is liable to be found to have one or more of the following conditions, in their order of frequency: (1) varicose veins, (2) ulcer of leg, (3) flat-foot, (4) hemorrhoids, (5) varicocele. These all are due to the same cause, prolonged standing with no walking. The rarity of these conditions in conductors is remarkable. Therefore, having run the gamut of treatments and dressings for chronic leg-ulcer without having found any one application uniformly successful, I was deeply interested in the article by May and Heidingsfeld[1] on the use of basic fuchsin in that condition. I had remarked that almost every application used by me in these cases of ulcer had tended to irritate the surrounding skin and produce a dermatitis. The statements of May and Heidingsfeld that fuchsin preparations (*a*) were absolutely non-irritant, (*b*) were proved to be non-toxic, (*c*) did not coagulate albumin, and (*d*) encouraged epithelial and granulation growth, at once influenced me to follow their suggestions.

I noted that the cases described were hospital cases and therefore probably in patients confined to bed. None of the patients whose cases I deal with in this article were confined either to bed or to the house, and most of them were doing their usual work on the cars. This was a much more severe test of the fuchsin treatment. I heeded the warning given in the article against the use of commercial fuchsin, and insisted on obtaining Grübler's Fuchsin für Bakterien. The formula used was:

Fuchsin	1
Petrolatum	5
Lanolin q. s. ad	100

This makes a fine smooth paste which does not melt and run away or soak through the dressing. From the first application, not only have I seen no irritant effect, but on the contrary the action of the dye seems to be a remarkably sedative one.

Of thirty cases of leg-ulcer between June 1 and December 15, only one has failed to respond, and in this case repeated trauma, and an alcoholic habituation must be taken into consideration. Having obtained such uniformly gratifying results in these chronic leg-ulcers I was prompted to extend its use to burns, abrasions denuded matrices of evulsed nails, ingrowing toe-nai operations, granulating wounds following suppuration and incision — in short, to all conditions in which there was ulceration or loss of epithelial covering. In burns the results have been little short of marvelous, especially in electric burns, which are notoriously hard to heal Not only does its use in second- and third-degree burns prevent suppuration and encourage epithelial growth but the soothing effect of its application is very gratifying to the patient.

I have compiled a short synopsis of the number of cases of each condition treated between June 1 and Dec. 15, 1913:

Varicose ulcer of leg	30
Burns	17
Evulsed nail	15
Granulating wounds, mostly infected, base of carbuncle, etc.	14
Ingrowing toe-nail operations	10
Sloughing of sutured wounds	6
Total	02

The results have been invariably good with the one exception mentioned above.

The only objection to the treatment is the bright red color of the dye, and the difficulty of removing its stain from the hands and clothing. This is a minor matter however, as alcohol will effectually remove the stain from the skin even after many days, and the clothing can be protected by a little care in applying the dressing and bandages.

My only reason for not using it as a moist dressing for wounds, as May did, is that I have been obtaining exceedingly satisfactory results from the use of tincture of iodin and dry dressings.

I wish to urge the extensive use of fuchsin not only in chronic ulcers but also in burns, abrasions and in all cases in which epithelial covering is wanting. It seems to fill a long-felt want in such cases.

1019 Beverly Road.

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[1] May, Eugene S., and Heidingsfeld, M. L.: Basic Fuchsin in Chronic Leg Ulcer, The Journal A. M. A., May 31, 1913, p. 1680.

SIGNIFICANCE OF ELEVATED BLOOD-PRESSURE IN PREGNANCY

FRANCIS ASHLEY FAUGHT, M.D.
PHILADELPHIA

The wide-spread interest in the sphygmomanometer, and its almost universal employment, have developed a wealth of clinical data bearing on the blood-pressure in a large variety of conditions. On the whole, this information is enlightening, and in many instances materially assists in the solution of clinical problems. Among the specialists, the obstetrician has learned to place great dependence on the guiding finger of the sphygmomanometer. Possibly by accepting too literally the conclusions of the pioneer writers, that continued high pressure calls for surgical interference, he may be led into error through lack of careful study and observation, and a failure to estimate the true value of the blood-pressure findings.

The one point which does not seem to have been clearly brought out is the relative danger of the high pressure of varying origin which may occur during pregnancy. Just as there are many persons who for a long time have moderate degrees of chronic kidney involvement, associated with little or no discomfort and few definite signs of serious disease in spite of the high pressure maintained, so also one may find women, who, during the course of their pregnancy, show a sustained high pressure with transitory or absent concomitant phenomena, and at no time present the picture of even a mild toxemic state. These most certainly, should be separated from the pregnant cases showing even a moderately elevated blood-pressure accompanied by some or all of the familiar signs of the toxemia of pregnancy.

While the first group may need special watching and careful management, they should by no means be looked on as subjects for surgical interference. This fact emphasizes the great importance of careful general clinical observation in addition to blood-pressure studies. In this connection the urine will often, but not always, serve as a valuable guide. (The value of urinalysis in doubtful cases is greatly increased when the total twenty-four-hour excretion is collected for examination.)

In the toxemia cases, the gradually rising pressure, the persistent nausea, the head pains and the characteristic urinary findings (diminished quantity with increasing amounts of albumin, casts and blood-cells), all point to an acute and progressive condition.

When it comes to a decision we may be further aided, if we can obtain evidence through the history of a previously existing kidney involvement sufficient to account for the fairly well-sustained high blood-pressure found on successive observations. Moderately elevated pressure may persist throughout a pregnancy while the urine continues to be large in volume, of low specific gravity, without albumin entirely, or with only minute quantities and often an entire absence of formed pathologic elements.

The following abstracts taken from case records are examples of the two types of high pressure above referred to.

Case 1.—Mrs. W. T., aged 37, undecimpara, was first seen Sept. 17, 1913. The last period was early in June. In the latter part of July moderate nausea and vomiting occurred, but no edema or other special symptoms referable to her condition. The bowels were constipated but were opened daily by enemas. The pulse was 88, and the blood-pressure 180 mm. Hg. At this time the patient was given a pill for constipation and directions in regard to diet, personal hygiene and habits, etc.

September 22, patient was much relieved of gastric disturbances. Pulse was 100 and blood-pressure 170 mm. Hg.

September 6, pulse was 100 and blood-pressure 170.

September 30, pulse was 90 and blood-pressure 160. Careful questioning developed the fact that following a plastic operation several years ago, unconsciousness lasted several days with total anuria, which was followed by evident signs of an active kidney lesion, for which she had been treated.

The urine on two occasions (in September, 1913) showed specific gravity from 1.010 to 1.018 with a trace of albumin, no casts, blood-cells or pus, but an occasional cylindroid and a few shreds of mucus. Subsequent observations warrant the assumption that the high pressure occurring in this case is due to an old kidney lesion and is not the result of a toxemic state and therefore does not demand evacuation of the uterus.

Case 2.—Mrs. C. B., aged 22, primipara (time calculated to March 30, 1912), represents a fair type of a moderate degree of a toxemia of pregnancy. The patient was first seen Feb. 5, 1912, when she complained of very edematous ankles, nausea and vomiting, dizziness and headaches. Examination showed blood-pressure to be 180, with a large amount of albumin in urine. Three weeks' active treatment, including rest, sweat-baths and other eliminative measures failed to better the condition. During this time the pressure ranged from between 170 and 185, dropping once to 150.

March 7, over 50 per cent. of albumin was shown by Esbach; other conditions were about the same.

Labor was induced March 9, and delivery occurred the following day, after which the blood-pressure promptly fell to 125 mm. Hg. On April 3, the blood-pressure was 120 and there was no albumin in the urine.

Patient presented herself again on Oct. 14, 1912, when she was six weeks pregnant. At this time she showed some edema of the ankles, but had no other complaints. Examination of urine showed low specific gravity, but no albumin or other pathologic elements. This patient was carefully watched till the time of her delivery, June 3, 1913. Throughout this pregnancy the blood-pressure ranged between 110 and 125, the average pressure being about 120; the urine at no time contained more than a trace of albumin and never showed any other abnormal characteristics. Delivery and subsequent history up to the present time are entirely uneventful.

It is interesting to note in this case that the toxemia which occurred during the latter part of the first pregnancy did not occur in the second, and that the little time elapsing between the two pregnancies did not permit of much recuperation. Yet in spite of this, it is plainly evident that there did not result any permanent kidney damage, which is shown by the fact that in the second gestation the blood-pressure and the urinary and other findings remained normal.

5006 Spruce Street.

EXPERIENCES WITH NOGUCHI'S LUETIN TEST FOR SYPHILIS

H. L. McNEIL, M.D.
HOUSTON, TEX.

For the past eight months I have been using luetin, as prepared by Noguchi, in selected cases in the Southern Pacific Hospital of Houston. I have been struck with its value in this class of cases, and in this kind of work, in which it is necessary to test numbers of men, and to do it with more or less rapidity.

The specificity of the test has impressed me as being decidedly valuable in the late cases of syphilis.

The technic has been carried out as recommended by Noguchi: 0. 07 c.c. of a mixture of equal parts of luetin and sterile normal salt solution, injected intradermically.

I have noted several anomalous reactions, which I shall describe briefly before taking up the series in more detail.

I have noted one of the so-called delayed reactions; that is, the site of injection appeared quite normal after forty-eight hours, and remained so for ten days, when there appeared a marked pustular reaction (Case 19). In one case a typical severe reaction appeared thirty-six hours after the injection, being typical, however, in every respect, and ran a regular course. This was a case, also, in which the Wassermann reaction was negative at the time; the patient had had a thorough treatment for syphilis, which had been contracted two and one-half years previously (Case 12).

I have noted two negative reactions in cases which were clinically tertiary lues. One patient was suffering from luetic iritis, and from a periostitis. He had a definite history of syphilis, incurred eighteen months previously, with practically no subsequent treatment.

The first test remained quite negative for twelve days. On the sixth day after luetin was given, vigorous antisyphilitic treatment was instituted (mercury inunctions to physiologic limit plus large doses of potassium iodid), with immediate improvement of all symptoms. On the twelfth day, a second injection of luetin was given, followed in forty-eight hours by a typical papular eruption, which later became pustular. Almost coincidentally with this reaction (twelve hours later), there occurred a similar reaction of about the same degree of severity at the site of the old injection, which had been made twelve days previously (Case 1). The other negative case was that of a man whose palate, soft and hard, was eroded, and who had an old urethrorectal fistula. There was a definite history of lues, practically untreated. The luetin reaction was negative. A second test, tried ten days later, was positive, not becoming pustular, however. The patient had been placed on antisyphilitic treatment on admission to the hospital, and was taking large doses of mercury and potassium iodid during the period elapsing between these tests (Case 3).

There were three positive reactions in patients who showed no definite clinical symptoms of syphilis, and who gave no history. Two of these were negroes who had been injured in accidents. Both gave a definite positive reaction. The other was a Mexican with chronic arthritis. All three denied lues, but owing to the races, and the social status of the patients, the negative history is to be doubted. The other twenty-two control cases, including typhoid, pneumonia, acute articular rheumatism, influenza, nephritis, malaria and endocarditis, were negative except one case of aortic and mitral insufficiency, with extensive arteriosclerosis, which showed a definite pustular reaction (Case 45), and one case of mitral regurgitation, and probably dilatation of the aorta, which showed a positive pustular reaction (Case 46). The last two were both elderly white laborers who were low in the social scale; both improved considerably under specific treatment, and should probably be considered as syphilitics, clinically, even without laboratory assistance.

There were no severe constitutional reactions from any of the tests, although a few patients complained of feeling ill, with slight headache and loss of appetite for about twenty-four hours.

In interpreting the following reactions, I have considered as positive only those which were definitely positive, that is, in which there was at least a distinct, indurated, red, papule, persisting for at least four days after the injection. All doubtful reactions were considered negative. Most of the reactions were pustular. In the following reports, papular reactions are denoted by + and pustular reactions by + +. Negative reactions are denoted by —.

REPORTS OF CASES

Case 1.—H. Iritis, periostitis, gumma of liver, history of chancre, followed by secondaries, eighteen months previously; practically no treatment. Luetin —.

Case 2.—H. (Same patient as Case 1) twelve days later; immensely improved after forcing mercury and potassium iodid. Luetin + +.

Case 3.—Eroded palate, urethrorectal fistula, history of syphilis ten years ago. Luetin —.

Case 4.—Same patient as Case 3, ten days later. Luetin +.

Case 5.—Castro, Mexican, otitis media chronica. Wassermann positive. Luetin +.

Case 6.—P. Cerebral lues. History of syphilis. Luetin +.

Case 7.—M. General paresis. Luetin + +.

Case 8.—S. Chancre, followed by secondaries three years ago. Thorough treatment (several courses of mercury [thorough], followed by two treatments with salvarsan). Healthy wife and baby. Wassermann negative several times. Luetin —.

Case 9.—B. Syphilis, primary and secondary, four years ago, followed by mercury for two years. Healthy wife and baby. Wassermann negative several times. Never had salvarsan. Luetin + +.

Case 10.—D. Syphilis, primary and secondary, two years ago. Thorough treatment with mercury. Salvarsan three times. Wassermann negative. Luetin —.

Case 11.—S. Syphilis, primary and secondary one year ago. Salvarsan twice. Mercury constantly. Wassermann negative. Luetin + +.

Case 12.—B. Syphilis, primary and secondary, two and a half years ago. Salvarsan twice. Two courses of mercury of several months' duration each. Wassermann negative. Luetin + +.

Case 13.—S. General paresis. History of syphilis twenty years ago. Luetin +.

Case 14.—J. Syphilis, primary and secondary, one year ago. Salvarsan once. No mercury. Suffering from periostitis. Luetin + +.

Case 15.—C. Sciatica. History of syphilis four years ago. Patient took mercury for few months only. Luetin +.

Case 16.—L. Argyll Robertson pupil, absent knee-jerks, mental aberration, no history of syphilis, Wassermann negative. Luetin +.

Case 17.—F. Syphilis, secondaries. Wassermann positive. Luetin —.

Case 18.—A. Syphilis secondaries. Luetin —.

Case 19.—H. Chancre hard. Luetin —.

Case 20.—P. Syphilis twenty years ago, followed by thorough treatment with mercury; patient has taken mercury off and on for past twenty years. Salvarsan twice. Wassermann negative. Luetin —.

Case 21.—H. Alopecia, loss of eyebrows. No history of syphilis. Wassermann positive before treatment. Salvarsan twice. Thorough course of mercury for two months. Luetin —.

Case 22.—S. Syphilis eight months ago, primary and secondary. Salvarsan once, mercury constantly. Luetin + +.

CONTROL TESTS

Case 23.—W., negro. Injury to foot, amputation of toe. Luetin —.

Case 24.—R., Mexican. Pulmonary tuberculosis. Luetin —.

Case 25.—B. Pleurisy, myocarditis. Luetin.—.

Case 26.—M. Typhoid. Luetin —.

Case 27.—T. Acute gastritis. Luetin —.

Case 28.—M., negro. Nephritis. Luetin —.

Case 29.—H., negro, aged 30. Injury to back. Patient denies lues. Wife had miscarriage at seven months. Luetin +.

Case 30.—M., Mexican. Amputation of foot. Luetin —.

Case 31.—W. Bronchitis. Luetin —.

Case 32.—R., negro, aged 40. Fracture of arm. Patient denies lues. Scars of old ulcers on shins. General enlargement of lymph-nodes. Luetin +.

Case 33.—C., Mexican. Carcinoma ventriculi. Luetin—.

Case 34.—I. Influenza. Luetin —.

Case 35.—Mexican laborer, aged 28. Chronic multiple arthritis. Patient denies lues. Luetin +.

Case 36.—L. Mitral stenosis. Luetin —.

Case 37.—Mexican. Malaria. Luetin —.

Case 38.—P., Mexican. Typhoid. Luetin —.

Case 39.—H. Acute gonorrhea. Luetin —.

Case 40.—S., Mexican. Amputation following accident. Luetin —.

Case 41.—Negro. Gonorrheal rheumatism (acute). Luetin —.

Case 42.—E., negro. Pneumonia. Luetin—.

Case 43.—C. Acute articular rheumatism. Luetin—.

Case 44.—Nephritis. Luetin—.

Case 45.—Mc., aged 48. Mitral insufficiency, dilatation of aorta. Denies lues. Luetin + +.

Case 46.—W., white, laborer, aged 54. Mitral and aortic regurgitation, arteriosclerosis (generalized). Patient denies lues. Luetin + +.

Case 47.—S., negro. Sprained back. Luetin —.

Case 48.—S. Unexplained attacks of periodic vomiting. Luetin —.

CONCLUSION

My feeling, after this limited experience, is that this is distinctly a valuable test, and that when it is positive we are dealing with syphilis. It has been of service to me in several cases in which syphilis would probably not otherwise have been suspected, and in which it was confirmed by either the Wassermann reaction or by the therapeutic test.

I wish to thank Dr. Noguchi of the Rockefeller Institute for his kindness in furnishing the luetin which was used in these tests, and Dr. R. W. Knox, chief surgeon of the Southern Pacific Lines, for permission to carry out and publish this work. I also wish to thank Dr. H. C. Moore of Houston for furnishing me with a few very interesting cases from among his own patients.

2612 Smith Street.

HEMORRHAGIC HYPERNEPHRITIS

WITH REPORT OF CASE

JOSEPH O. WALKUP
First Lieutenant, Medical Corps, United States Army
FORT BAYARD, N. MEX.

No excuse is offered for this case-report other than that it is an unusually distinct picture and an uncommon condition. Munson, quoting Arnaud, states that adrenal hemorrhage is found in 1 per cent. of cases. I agree with Munson that this figure is high. In 652 necropsies performed in the United States Army General Hospital for Tuberculosis, with examinations of all organs, but one case has been recorded. The subject is not so well treated in medical literature as other conditions equally uncommon. A majority of the text-books do not speak of the condition and many only mention it. Very few so treat the subject that one could reasonably be expected to recognize it clinically.

The etiology is unknown. Microscopically, fatty degeneration is marked (Adami). In my experience, typical fatty degeneration in the adrenal with atrophy of the cell nuclei is very uncommon, especially in the cortical portion. Fatty infiltration is apparently not so rare. I have noticed that when fatty degeneration or infiltration is present in the adrenal, the fibrous tissue of the pancreas is usually increased and the islands of Langerhans are apparently enlarged. Whether this is a coincident or an etiologic relationship I am not prepared to state. Infection, trauma, thrombosis, etc., have been advanced as etiologic factors. None of them, however, are thoroughly satisfactory.

The symptoms are not well defined as a rule. Rolleston gives the most characteristic symptoms as "sudden onset with fever, violent pain in the hypochondrium radiating to the loins, convulsions, vomiting, diarrhea, and later tympanites, collapse and death within forty-eight hours from the onset." Karakascheff emphasizes asthenia and intestinal irritation (Doch). The following case may assist in defining the symptom complex:

History.—C. L. R., white, man, aged 43, sergeant, who had served in the army seventeen and one-half years, entered the hospital Nov. 22, 1911. The family history was negative. The patient had had dysentery in 1909, and malaria in 1908. In July, 1898, the left ear began, without pain, to discharge pus, and had discharged off and on ever since. Patient had had growths in both sides of scrotum ever since he could remember. The present illness began in April, 1909. Patient was hoarse, had slight expectoration and cough. In April, 1911, he contracted a heavy cold, and the hoarseness, expectoration and cough became worse. He had gradually lost 50 pounds since April, 1909. His best weight was 220 pounds, in 1896. Sputum was positive for tubercle bacilli in October, 1911.

Examination.—On admission the patient's temperature was 98.8, pulse 84, weight 149 pounds, cough and expectoration moderate. Expectoration was mucopurulent. There were numerous tubercle bacilli; digestion was unimpaired. Blood and urine were normal. The patient was deaf in the left ear. There was a large perforation in the posterior inferior quadrant. Examination of larynx showed infiltration and ulceration of posterior commissure. Lungs showed signs of healed tuberculous infiltration in the upper part of both superior lobes. There was a slightly active tuberculous infiltration at the summit of both inferior lobes. The abdomen was normal. Both testicles were malformed—lobulated. There was a right inguinal, indirect, incomplete, reducible hernia, which had developed gradually during the past two years as a result of coughing.

Treatment and Course.—Under routine treatment the patient became free from clinical tuberculous activity in March, 1912. Tubercle bacilli were present in sputum. The weight was 160 pounds. Patient's condition remained the same until discharged on surgeon's certificate of disability in October, 1912. Tubercle bacilli were present in sputum. The weight was 176 pounds. The general condition was favorable. The result was noted as improvement.

Second Admission.—After leaving Fort Bayard the patient went to Pennsylvania where he remained for seven months, doing no work. Appetite and digestion became impaired, resulting in the loss of 31 pounds in weight. Cough and expectoration increased. On readmission, May 14, 1913, temperature was 98.2, pulse 96, weight 145 pounds. Patient complained of anorexia and of griping pains in lower abdomen, especially after breakfast; had had a diarrhea the past two months. An active tuberculous infiltration was found in the greater part of both superior lobes and at the summits of both inferior lobes. There was a cavity at the right apex posteriorly. This condition of the lungs was complicated by tuberculous otitis media, left; tuberculous laryngitis, and tuberculous enterocolitis. Blood and urine were normal.

June 14, 1913: General condition of patient was unimproved. He was much weaker and had lost 10 pounds in weight. Temperature was from 99 to 100. Patient continued to have griping pain and constant diarrhea. Lungs showed fewer râles.

July 14: General condition was unchanged from last report. Diarrhea continued from four to five movements daily. Diagnosis and complications remained unchanged.

August 15: This morning patient developed an attack of sudden pain in the upper right abdomen localizing at the angle of the right costal arch. Pain radiated to angle of right scapula and to point of right shoulder. Abdominal muscles were rigid. Temperature, morning, was 98.8; evening, 100. Pulse was 96, full and hard. Diarrhea was uncontrolled. Urine was normal. Nothing pathologic was found in fecal analysis.

August 19: Patient was apparently improving. Abdominal pain was becoming less though still there was a painful point at angle of right costal arch. Pressure caused pain to radiate to point of right shoulder and to angle of right scapula. Morning temperature was 98; evening temperature, 99.2; pulse 84, high tension.

August 20: Just after breakfast patient suffered an attack of acute pain in the upper left abdomen localizing at angle of left costal arch, but radiating to point of left shoulder and angle of left scapula on pressure. Pain was not so severe as on the 15th. Morning temperature was 98; evening temperature, 99.6; pulse 96, high tension. There was occasional vomiting of watery fluid containing bile. Diarrhea was increased.

August 21: The condition was apparently unchanged from that of the 20th. Morning temperature was 97.6; evening temperature, 99.8.

August 22: While the nurse was out of the ward the patient arose and went to the water-closet about 20 feet away, fainted and fell to the floor. The nurse stated that the patient was entirely unconscious, but had a very hard pulse; breathing was shallow. The patient was put into bed and given 15 c.c. of whisky, after which he revived and complained of severe abdominal pains radiating to his shoulders. The medical officer was summoned, but the patient developed a severe convulsion and died at 8:55 a. m., about twenty minutes after fainting and before the medical officer arrived.

The clinical diagnosis was chronic pulmonary tuberculosis and tuberculous enterocolitis. Hemorrhage or perforation of duodenal ulcer was suspected as the cause of death.

Necropsy.—This was held at 1:30 p. m., Aug. 22, 1913. The body was that of a dark, emaciated white man, aged 45. Abdominal walls were retracted and rigid. Rigor mortis was absent from the extremities and neck; body heat was present.

Tuberculous infiltrations were found in the upper parts of all the lobes of the right lung and of the entire left lung.

The heart and pericardium were apparently normal.

No definite pathologic condition other than passive congestion could be demonstrated in the liver macroscopically.

Evidence of beginning intestitial nephritis was found in the kidneys.

The spleen showed passive congestion.

The pancreas was slightly fibrous.

Adrenals: The right adrenal is enlarged and situated in a blood-clot about the size of a hen's egg. The clot appears to be composed of two parts: an older portion which is almost black and a younger portion which is bright red and apparently of recent origin. The surface of the gland and the hematoma are free from evidence of tubercles. In some parts of the cut surface of the gland it appears as though there had been hemorrhage within the gland substance. No definite macroscopic change can be demonstrated within the gland.

The left adrenal is within a blood-clot as large as a fist. The greater portion of the clot is above the gland, while in the right the gland is almost within the center of the clot. The clot about the left gland does not appear to be made up of two portions, a younger and an older, as is the clot about the right. This hematoma on the left side is apparently very recent in origin. The clot is sufficiently large to incorporate the semilunar ganglia; the ganglion, however, cannot be definitely identified. The margin of the hemorrhage extends to the celiac axis. The sectioned mass shows the gland to be apparently free from disease or hemorrhage.

Intestines: The small intestines and stomach are apparently free from pathologic change other than a slight reddening and thickening of the mucosa of the stomach and duodenum. The large intestines contain several large tuberculous ulcers. The ulcers have bright red, indurated, raised edges. A few tubercles are discernible in the bottom of the ulcers.

Microscopic Findings: Adrenals: The left adrenal shows a diffused and general fatty degeneration. Within and about the glands are numerous evidences of hemorrhage. There are more evidences of hemorrhage externally than internally. Very few cells can be recognized as gland-cells. The degeneration has apparently been very rapid and of equal extent throughout the organ. The same condition as in the gland proper is present in the small clumps of adrenal tissue seen about the periphery of the glands. The medullary and cortical portions are equally involved. The degeneration however, is more advanced in the medullary portion, judging from the fact that the few remaining cortical cells stain more distinctly than those of the medullary portion. There is no evidence of tubercles in the adrenals. The right adrenal shows the same pathologic condition as the left. The hemorrhage is more distinct within this gland than within the left.

Pancreas: The interstitial tissue is increased. The islands of Langerhans are unusually large. The blood-vessel walls are thickened, as are the walls of the ducts.

Pathologic Diagnosis: The cause of death was hemorrhagic hypernephritis. Associate causes of death were fatty degeneration of adrenals, and chronic pulmonary tuberculosis.

Munson states that a positive clinical diagnosis can be made only when the glands are sufficiently enlarged to be recognized by palpation. While this is to be borne in mind, the majority of patients will be so exquisitely tender that palpation cannot be performed thoroughly enough to demonstrate enlarged glands. Theoretically, the blood-pressure should be very low — at least shortly after the hemorrhage. It is possible that the pressure might be raised immediately after the hemorrhage, as the absorptive surface would be suddenly increased. This should not last long, as the gland would certainly be traumatized so as to reduce its secretion, and pressure would fall through the lack of normal secretion.

Apparently the cardinal symptoms are profuse watery diarrhea, pain localizing at angle of costal arch and radiating, especially on pressure, to the shoulders and loins, and symptoms of collapse with a high blood-pressure.

From a theoretical point of view the treatment should be absolute rest, light diet and adrenal extract. Diffusible stimulants which dilate the vascular system are to be avoided.

In conclusion, I will state that Sergeant R.'s diarrhea may have been due to tuberculosis; but one who has attended necropsies on tuberculous subjects for any length of time always wonders why diarrhea is not a constant symptom of tuberculous colitis, enteritis or enterocolitis. In less than 30 per cent. of our cases of tuberculous bowel disease coming to necropsy was there a history of diarrhea. There is apparently but little relationship between the diarrhea and the extent of a tuberculous condition present in the intestine. It may be that adrenal changes are a factor in tuberculous enteritis, colitis or enterocolitis.

DETECTION OF MERCURY IN THE EXCRETIONS *

KARL M. VOGEL, M.D.
AND
O. IVAN LEE, B.S.
NEW YORK

The identification of mercury in the urine, stomach-contents or feces of persons supposed to be suffering from poisoning by this metal is often a matter of great diagnostic importance, and is of especial significance owing to the fact that if the proper eliminative treatment is begun without delay the patients' lives can be saved in a considerable proportion of the cases. The newspaper notoriety given to recent cases of poisoning with mercuric chlorid, the ease with which the substance may be obtained, and the mistaken but prevalent idea that the death caused is rapid and without discomfort, have procured for this agent a wide vogue among those attempting suicide; while its popularity as a household antiseptic causes accidental poisonings to occur with considerable frequency. The history to be obtained from such patients or their friends, however, is often extremely unsatisfactory, and there is nearly always room for doubt whether or not the poison has actually been taken, and if so, whether the amount is large or small. Most of the cases of accidental poisoning occur at night through the victim's having swallowed something from a bottle in the dark, and often there is merely the suspicion that what was ingested came out of the poison container and not from its innocent neighbor, so that the patient and his friends remain in a state of mind which is uncomfortable, to say the least. Would-be suicides, on the other hand, frequently deny the nature of the substance taken, and the only proof possible may be that of demonstrating the poison in the stomach-washings or in the urine or stools. As a result the occasions in which it is necessary to test for the presence of mercury in the excretions are not so very rare, but unfortunately most of the methods available for this purpose are far too complicated to be suitable for clinical application. In two cases of mercuric chlorid poisoning, one with suicidal intent, the other accidental, recently treated at St. Luke's Hospital, and in a third from outside, the following procedure, which is a combination of various steps from several older methods, was found to be very satisfactory in identifying the poison and following its elimination in stomach-contents, urine and feces.

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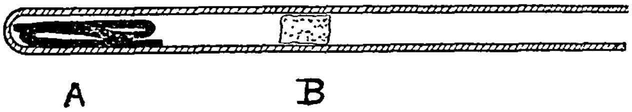
* From the Pathological Laboratory of St. Luke's Hospital, New York. Dr. F. C. Wood, Director.

In dealing with urine, about 150 c.c. is taken, and in order to break down the organic compound in which the mercury is likely to be present, it is acidulated with 5 c.c. of concentrated hydrochloric acid and evaporated over a free flame until its bulk has been reduced to 25 or 30 c.c. About 2 c.c. of hydrochloric acid is added to replace the loss by evaporation, and enough potassium chlorate to oxidize thoroughly the organic material present. This usually requires about 2 gm., and when it has been effected the fluid becomes pale yellow or colorless. It is then diluted to about 60 c.c. and is boiled vigorously until the chlorin gas previously evolved has been driven off, which is shown by the absence of chlorin odor from the steam. The solution usually darkens again on cooling. A piece of copper wire (about 18 gage) about 4 cm. in length, bent back on itself twice and cleansed by boiling a short time in a test-tube with dilute hydrochloric acid, is dropped into the solution and allowed to remain for an hour or more. If considerable amounts of mercury are present it will then be found to be coated with a silvery film of metallic mercury; but this is not sufficient to establish the identity of the metal, and if it exists only in traces the changes in the appearance of the wire may be inconclusive. The wire is accordingly removed from the dish with a glass rod, is washed with a little water and is gently dried by rolling it on a piece of filter-paper, pains being taken to avoid unnecessary handling and attrition. It is then allowed to slip to the bottom of a glass tube from 3 to 5 mm. in diameter and 15 cm. in length, which is sealed at one end, and is followed by a cylindrical plug of gold-leaf which is pushed into the tube until it is within 2 cm. of the wire. Such pellets of gold-leaf are used in filling teeth and are furnished by the dental supply-houses in the size required for the present purpose, so that when needed it is easy to obtain them from the nearest friendly dentist. The arrangement of the objects within the tube is shown in the accompanying sketch.

Holding the tube horizontally, the end containing the wire is gradually heated by brief successive introductions into the small flame of a Bunsen burner or spirit lamp, care being taken to avoid heating the part of the tube containing the gold-leaf. The latter must be examined frequently for any change of color, especially the end of the cylinder toward the wire. If mercury is present it will manifest itself by the appearance of a silvery patch of amalgam in this situation. If the amount of the metal is exceedingly minute there will be simply a pale discoloration of the gold, seen to better advantage with the hand-lens or by removing the pellet from the tube and examining it with the low power of the microscope; but if the amount is larger the deposit on the gold will be very easy to recognize.

If the pellet is too close to the wire the heat traveling along the tube may cause a deposit of mercury which at first was distinctly visible to become diffused so that it grows less evident. In doubtful cases the experiment should be repeated, using larger quantities of the material to be tested and allowing the wire to remain longer in the solution. If a positive result is obtained the tube may be sealed and kept as a permanent record. If further confirmation of the identity of the mercury is required, the gold-foil may be suspended in a tube containing a few crystals of iodin which are then very gently warmed. The mercury thus becomes converted into red mercuric iodid; or if the amount is considerable the metal may be distilled by heating the gold-foil in the tube and looking with the lens for a deposit of very minute droplets of metallic mercury in the cooler parts of the tube. Some idea of the amount of mercury present may be gained by weighing the gold before and after the formation of the amalgam.



Apparatus for the detection of mercury in the excretions; *A*, copper wire; *B*, pellet of gold-foil.

In testing stomach-contents or feces the same method is employed although the quantity of material taken is usually smaller. The material must be well mixed to insure getting a uniform sample of the specimen, especially in the case of stomach-contents if egg-albumin has been given as an antidote, as the mercury is then in the form of albuminate. The oxidation also takes longer, and larger quantities of potassium chlorate are required. Before the wire is placed in the solution, the latter should be filtered in order to remove any fatty substances, carbon or other insoluble materials.

Corrosive sublimate is readily reduced by organic matter to metallic mercury, and the latter, as well as mercuric chlorid, is volatile to a slight extent with steam, so that this must be kept in mind in evaporating or digesting solutions which may contain very minute amounts of the poison. The quantity of mercury which the copper is capable of abstracting from the fluid is a function not only of the concentration of the solution but also of the time of contact, so that if the test is negative after the wire has been immersed for one or two hours, another piece of wire should be dropped into the fluid and allowed to remain for a longer time, even over night.

In order to test the sensitiveness of the method the following experiments were done: A solution of mercuric chlorid was made containing 0.0001 gm. of mercury to the cubic centimeter, equaling 0.01 per cent.

or 1:10,000. Using this solution as a basis, successive dilutions showed that a definite positive reaction could be obtained when a solution containing 0.00002 gm. of mercury in the dilution of 1:1,000,000 was used, allowing the wire to remain in the solution three hours.

In order to make the controls more nearly resemble clinical conditions, experiments were made using three different specimens of albuminous urine, and two specimens each of stomach-contents and stools, to which definite amounts of the mercury solution were added, the mixture being allowed to stand over night before the tests were made. It was found that 1 mg. of mercury in 100 c.c., equaling a dilution of 1:100,000, could be detected in the urine, stomach-contents and stools, the wire being allowed to remain in the fluid two hours. In these cases the amount of amalgam formed on the gold was sufficiently large to be recognized with the unaided eye. Further control tests with materials to which no mercury was added gave negative results. The urine of twelve patients who had each received 2 grains of calomel the night before was also tested. In two of these a very faint positive reaction was obtained, showing the delicacy of the method, and also, that it is desirable before making a diagnosis of mercury poisoning to find out whether or not the patient has been given calomel.

The principle of securing deposition of the mercury on a metallic surface is made use of in many of the standard tests, such as the classical one of Reinsch and those described by Jolles,[1] Winternitz,[2] Almèn,[3] Brugnatelli,[4] Mergte,[5] Mauthner,[6] and Ludwig and Zillner.[7] All of these, however, involve complex manipulations or the use of reagents not always available, such as gilded platinum, powdered reduced copper, gold chlorid, etc. The formation of gold amalgam as a means of recognizing minute amounts of mercury also is not new, but it is believed that the technic suggested in the foregoing offers a simple, fairly rapid and exceedingly delicate method of testing for mercury which can easily be carried out by any physician.

680 Madison Avenue.

A CASE OF AMEBIC DYSENTERY OF THIRTEEN YEARS' DURATION CURED BY EMETIN HYDROCHLORID

G. W. McCaskey, A.M., M.D., Fort Wayne, Ind.
Professor of Medicine, Indiana University School of Medicine

The case about to be reported seems sufficiently important to be placed on record because (although this is only the second case that I have recognized) the fact has been recently acknowledged that the disease is not extremely rare in this latitude, and because of the important discovery of the specific amebicidal action of emetin hydrochlorid which was announced by Rogers[8] last year. There is no longer any doubt that, either *in vitro* or *in vivo*, it kills amebas with the same certainty that quinin kills the *Plasmodium malariae*, or salvarsan the *Treponema pallidum;* and that to the very short list of undoubted "specifics" capable of destroying certain micro-organisms within the human body without material injury to the host, emetin may now be added.

History.—The patient, a married woman, aged 70, consulted me Aug. 25, 1913, concerning constant and intractable diarrhea. The *family history* was uneventful. The patient had always been strong and healthy without illness of any consequence until thirteen years prior to the consultation, when the present trouble began. At that time, while in Tennessee, she had an attack of acute dysentery which, passing into a chronic diarrhea, has since been persistent. At times the discharge would be bloody and at others simply diarrheal. Throughout the thirteen years she had passed no formed stool.

During and following the acute illness she lost 30 pounds in weight but later regained much of it, and by extreme care in diet and extensive treatment had maintained a reasonable degree of health until some three or four years ago, when she again began to lose strength and weight. The heart was somewhat enlarged, the left border being 1 cm. to the outside of the midclavicular line. The blood-pressure was 140. The heart-sounds and rhythm were normal; there was no dyspnea, palpitation or edema.

The blood examination (which along with the other laboratory work was done by Dr. B. M. Edlavitch) showed hemoglobin 75 per cent., a leukocytosis of 17,600, polynuclears 61 per cent., small lymphocytes 20 per cent., large 10 per cent., transitional 1 per cent., eosinophils 7 per cent., basophils 1 per cent. Nothing was noteworthy in either physical examination or laboratory findings, beside the feces. These were semifluid, yellow, and contained mucus but no blood. Microscopic examination showed many amebas, which on the warm stage were found to be very actively motile. Meat-fibers and fats in the form of soaps and needle-shaped crystals were found in excess, probably due to the rapid transit of food debris through the bowel.

The patient entered Hope Hospital Sept. 8, 1913, for treatment. On that day Dr. M. F. Porter, Jr., who studied the case with me, gave her two-thirds grain of emetin hypodermically. Very mild nausea followed. September 9 she was given 1 grain. This was followed by increased nausea and very definite abdominal distress, which was unusual in her case. September 10 she was given 1 grain. Our stock of emetin then became exhausted and three days elapsed before the next injection was given. September 11 amebas were still present, but in greatly diminished numbers and nonmotile. Fifty-six hours after the third injection nausea increased in activity rather rapidly, several attacks of vomiting occurred and the patient was unable to take any solid food. Buttermilk was vomited shortly after it was taken. The abdominal distress which had continued was more severe at this time than earlier in the disease. September 13 no amebas were found, and 1 grain of emetin was administered, which was followed by distressing nausea and a largely increased number of liquid stools. A dozen stools were passed in the course of twenty-four hours. Nausea was still defined, abdominal distress troublesome and the patient suffering and greatly discouraged, except for the assurance that the cause of the chronic diarrhea had disappeared. No more emetin was given.

September 16 the patient had only three stools in twenty-four hours and of these the last was formed. The patient was very positive that this was the first formed stool which had passed in thirteen years, the stools having been constantly thin and watery during this time. The nausea and abdominal distress having disappeared, the patient was dismissed from the hospital. September 18 she was feeling perfectly well, except that normal appetite had not returned and solid food was repugnant to her. At this time the patient's condition was practically normal, about one formed stool daily being passed, and she was dismissed as presumably cured.

September 23, five days after dismissal, the patient returned with a recurrence of the diarrhea—six or eight loose, watery stools daily. Examination of the stools showed the presence of actively motile amebas. The cure had been only apparent, a sufficient number of the protozoa remaining to permit a complete recrudescence of the disease. She was not materially better than before the treatment.

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[1] Jolles: Monatschr. f. Chem., 1900, xxi, 352.

[2] Winternitz: Arch. f. exper. Path. u. Pharmakol., 1889, xxv, 229.

[3] Almèn: Jahresb. f. Tierchem. (Maly's), 1886, xvi, 221.

[4] Brugnatelli: Riforma med., 1889, iv, 825.

[5] Mergte: Jour. de pharm. et de chim., 1889, xix, 444.

[6] Mauthner Quoted in Neuberg: Der Harn, Julius Springer, 1911, p. 181.

[7] Ludwig and Zillner: Ztschr. f. anal. Chem., 1891, xxx, 258; Wien. klin. Wchnschr., 1889, ii, 857; 1890, iii, 354, 552, 572, 615.

[8] Rogers: Brit. Med. Jour., June 22, 1912.

The patient returned September 30 to resume treatment. She had considerable diarrhea and the stools contained amebas, although not so many as when treatment was first begun. On that date she was given two-thirds grain of emetin hydrochlorid hypodermically. October 1 and 2, she was given two-thirds grain; October 4 and 5, 1 grain. The injections were then omitted on the 6th and 7th. October 8, no amebas were found, but 1 grain of emetin was given. The patient returned October 13, having taken, according to directions, a saline laxative, as the amebas can be more certainly found in stools produced in this way. The stool contained no mucus and no amebas. On that day she was given an injection of 1⅓ grains emetin hydrochlorid. The patient was not seen again until October 17, when one or two formed, yellowish-brown stools, which contained no mucus and no amebas, were being passed daily. On this date an injection of 1 grain of emetin hydrochlorid was given. She visited the office again October 22 and 27, when the stools were examined and found to be perfectly normal in color and consistency and containing neither mucus nor amebas. The patient considered herself entirely well and was again dismissed as cured.

It is unnecessary to dwell on the fact that amebic dysentery is not so extremely rare in this latitude and should be constantly sought for even among patients who have not been south of the Ohio River. About a year and a half ago (April, 1912) a patient came under my observation (referred by Dr. Hackedorn of Antwerp, Ohio) who had never been south of the Ohio River. He had amebic dysentery in an advanced stage and died a few weeks after entering the hospital, in spite of everything that was known in the way of treatment at that time. This included, of course, ipecac, used as energetically as possible, carried past the stomach in specially prepared capsules. The necropsy showed the colon to be completely denuded of its mucosa over remarkably extensive areas, some of which were certainly 6 or 8 inches long.

The diagnosis is perfectly easy and should be made from stools obtained by a saline laxative, two or three stools being examined on the warm stage immediately after being voided. The presence of actively motile amebas, together with the symptoms of chronic intestinal irritation, should leave no doubt as to the proper diagnosis.

A differential diagnosis between the pathogenic and nonpathogenic amebas found in the intestines is not so easy from a study of morphology alone. The *Entamoeba coli* is the ordinary non-pathogenic form frequently found in healthy persons, its distinctive feature being that it multiplies from daughter-cysts contained within the body of the ameba, the daughter-cysts in this species being eight in number. The *Entamoeba tetragena* contains four instead of eight of these daughter-cysts and is pathogenic. The only other recognized pathogenic form is the *Entamoeba histolytica*, which multiplies by a budding process instead of by the development of daughter-cysts within the organism. Darling[2] in a recent communication maintains that this is a spurious form derived from the *Entamoeba tetragena*. Craig,[3] however, following Schaudinn, maintains the autonomy of *Entamoeba histolytica*. We need not worry about these controversies because the simple fact is that the occurrence of chronic diarrhea with any actively motile amebas present in the stool is sufficient to establish the diagnosis.

Several points seem worthy of comment. The occurrence of marked general abdominal distress, beginning on the second day of treatment and lasting several days, is probably to be referred to the specific action of the emetin on the myriads of amebas with which the intestinal wall was undoubtedly infiltrated. It was probably due to the liberation of endogenous toxins from the killed amebas, acting on the neurovascular mechanisms of the intestinal area. Another interesting feature was the rapid development of severe nausea and vomiting fifty-six hours after a dose (the third) of emetin. It is scarcely supposable that the nauseant and emetic action of the emetin, given hypodermically, could be delayed so long. Pharmacologists tell us that it is rapidly excreted by the gastro-intestinal, and to a less extent by the urinary tract. Here again, I believe the most plausible explanation to be the liberation of excessive quantities of endogenous toxins from killed amebas. It did not occur during the treatment of the relapse, when, it can be fairly assumed, there was only a fraction of the number of amebas present at the outset of treatment.

The tendency to recrudescence is well shown in this case, and we made a mistake in stopping treatment on September 13. Baermann and Heinemann[4] also emphasize this fact, and recommend after-treatment at intervals of three or four weeks, checked by examination of the stools for several months.

Blood examination made Nov. 21, 1913, showed leukocytes, 9,000; polymorphonuclears, 69; small lymphocytes, 28; large lymphocytes, 2; transitional, 1; eosinophils, none. Two important clinical facts are noted, first the disappearance of the leukocytosis, and second the complete disappearance of the eosinophilia, the latter being especially important.

A CASE OF MERCURIC CHLORID POISONING DUE TO VAGINAL DOUCHES

FENWICK BEEKMAN, M.D., NEW YORK

Numerous cases have been reported of mercuric chlorid poisoning by absorption through the vaginal mucous membrane. Most of these have been the result of ignorance, as when a woman has inserted an "antiseptic" tablet into the vagina with a resultant gangrenous inflammation and absorption through the damaged tissue of the part. Other cases of poisoning have been due to douches given to women after childbirth, when absorption is facilitated by the relaxed and abraded tissues.

The case I report demonstrates that the normal vaginal mucous membrane also may in certain persons absorb enough corrosive sublimate from comparatively dilute solution to cause toxic symptoms.

REPORT OF CASE

History.—Mrs. B., aged 22, married six months, has always been healthy with the exception of the usual diseases of childhood. Her menstrual history has been normal; she has not become pregnant. Three weeks prior to examination the patient first noticed a swelling in the legs, though for a month previous she had been conscious of an increase in body size and slight headache had occurred. She consulted a physician who told her she had a chronic "Bright's" and that nothing could be done for her. On further questioning it was found that ever since her marriage she had been using vaginal douches four or five times a week to prevent conception. These consisted of a mercuric chlorid solution, from 1:1,000 to 1:2,000 in strength, made by placing a 7.3 grain tablet of corrosive sublimate in a quart douche-bag from one-half to three-quarters full of water.

Physical Examination.—Patient rather stout with a waxy pallor of skin and mucous membranes and marked anasarca of the entire body. Edema under eyes, which were very prominent and had a "popping-out" appearance. Thyroid not enlarged; no tremor. Heart signs negative; pulse 112, regular, without increased tension and showing no thickening of vessels. Lungs normal. Abdomen prominent with many striae on the skin: percussion note tympanitic over the anterior portion with shifting dulness in flanks; a wave of fluctuation present; edges of liver and spleen not palpable; vaginal examination negative; marked edema of the legs; temperature normal.

Urine (analysis of 1,000 c.c.) dark amber. Specific gravity of 1.004, reaction acid. Albumin 8 grams to the liter (Esbach). Many hyalin and granular casts and red blood-corpuscles.

Systolic blood-pressure 115 mm. of mercury. Blood: hemoglobin 80 per cent., white blood-cells 9,600.

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[2] Darling, Samuel J.: Budding and Other Forms in Trophozoites of Entamoeba Tetragena, Arch. Int. Med., May 15, 1913, p. 495.

[3] Craig, Charles F.: The Relation of Parasite Amoebae to Disease, Am. Jour. Med. Sc., January, 1913, p. 83.

[4] Baermann and Heinemann: Abst. Am. Jour. Med. Sc. October, 1913.

With the cessation of the douches improvement set in rapidly, the urine output was easily raised to between 2,000 and 3,000 c.c. daily; the anasarca disappeared and the amount of albumin rapidly decreased. At no time did the systolic blood-pressure rise higher than 120 mm. of mercury. In five months she was discharged cured with no signs of her former illness and has since remained well for two years.

This case is of interest because it appears to be one of irritation of the kidney due to the absorption of mercuric chlorid through the vaginal mucous membrane. The amount of the drug absorbed each time must have been small but enough to keep up a constant irritation to the renal parenchyma, for as soon as the douches were discontinued improvement set in and continued until the lesions were apparently cured. Though the symptoms of intestinal irritation and stomatitis were absent, the case must be considered one of mercurial poisoning for the following reasons: The absence of any other factor which might have produced the nephritis, the rapid improvement and cure on cessation of the douches and the typical symptomatology of a toxic nephritis.

It is known that certain individuals are more susceptible to bichlorid of mercury than others, but even though this be so, it is hard to conceive that absorption could take place through the intact vaginal mucous membrane adequate to produce toxic symptoms. Of course where the drug is sufficiently concentrated to destroy tissue, absorption is thereby greatly increased and we may expect toxic symptoms, and as previously remarked in postpartum cases absorption is increased by the retention of the drug due to the relaxed condition of the birth-canal, lacerations and abrasions.

The conclusion, therefore, is that the indiscriminate use of corrosive sublimate as a vaginal douche may be dangerous at any time and this danger is increased if there be any condition present which would tend to increase retention and absorption of the drug.

55 East Sixty-Fifth Street.

DEFACED TYPE OF ADDISON'S DISEASE

Albert O. Holmes, M.D., Long Beach, Cal.

History.—The patient was a Civil War veteran aged 72, seen in consultation with Dr. B. M. J. Conlin of this city. The history up to two years ago had no bearing on the case. The present illness seemed to begin about two years ago with indefinite stomach trouble and indigestion. He had considerable sour stomach and intestinal upset, with attacks of diarrhea, and a very few attacks of vomiting. There was no history of vomiting blood or passing blood by the bowel. He became "run down" and unable to attend to business. For the last six months he has had a yellowish-looking skin and became progressively weaker. The last two weeks he has been confined to bed, during which time he has had chills and fever nearly every day.

Examination.—This showed a very emaciated man with a peculiar lemon-yellow pigmentation of the entire body so often seen in pernicious anemia and sometimes in cachectic conditions due to cancer. Examination of the lungs revealed dulness over the right lower lobe behind, with decreased breathing and fine moist râles, but was otherwise negative. The heart borders were normal, the rate regular, and 78 to the minute. The heart-sounds were very weak and distant, and no murmurs were heard. The abdomen was scaphoid and soft. The liver area was normal, the spleen not felt, the kidneys not palpable; no tumors or enlarged lymph-nodes were discovered. The temperature was 102.2 F. although the heart-rate was only 78, the pulse being of good quality and well sustained. Blood-pressure was 110. Urine examination was negative for albumin, casts, sugar and bile pigments. Blood examination showed: red cells, 1,210,000; white cells, 4,088; hemoglobin, 45 per cent.; color-index, 1.8. The red cells showed marked anisocytosis and poikilocytosis. There were many megalocytes, the average size of cells being above normal. No blast-cells were found, but there were considerable polychromatophilic changes and basophilic granulation. No differential white count was made, but the slides showed a definite relative lymphocytosis. There were no malarial parasites present. A blood examination eight days later showed: red cells, 1,250,000; white cells, 2,482, with same changes as noted above; no blast-cells.

As the patient was very weak and a passage of the stomach-tube was objected to, no gastric analysis was made.

The diagnosis seemed to be one of two things. The color of the skin and the blood-findings strongly suggested pernicious anemia; but the history and the physical findings other than the blood did not bear it out. The history and emaciated appearance of the patient pointed toward cancer of the stomach with a severe secondary anemia. The fact that no tumor could be felt in such an emaciated man clouded the diagnosis of cancer. Addison's disease was not thought of.

During ten days the patient was under observation he had an intermittent temperature ranging from 102 F. to below normal. During the fall of fever he would have drenching sweats. He became progressively weaker and died in coma.

Necropsy.—This was performed thirteen hours after death but the body had been injected with embalming-fluid. In brief the necropsy disclosed the following: The peritoneal cavity was normal and contained no fluid. Pleural cavities contained no fluid; a few adhesions were found at the left apex and many adhesions at the right lower lobe. Pericardial cavity was normal. Heart-muscle was of normal thickness and color; there was some sclerosis of the mitral and aortic valves, but both were competent. The aorta and coronary arteries were slightly sclerosed. The left lung was normal except for a few scars at the apex. There were no tubercles. The lower lobe of the right lung was congested and streamed with bloody, slightly frothy serum on section. The liver and spleen were normal. The kidneys were slightly below normal size and showed some sclerotic changes; the capsules stripped readily; there were no cysts. The left kidney was lobulated. The stomach and intestines were normal. There was no tuberculosis of the mesenteric or retroperitoneal lymph-nodes. The left adrenal was small and adherent and reduced to a caseous cyst. The right adrenal small and caseous in the medullary portion, with a shell of recognizable adrenal cortical tissue. Under the microscope the changes were shown to be tuberculous, with complete destruction of the left gland and partial destruction of the right gland, which contained some apparently normal tissue. The only tuberculous lesions found outside the adrenals was a slight puckering and slight calcareous infiltration at the apex of the left lung.

Such defaced types seem impossible of diagnosis except at necropsy. The most interesting points were the light yellow, pernicious anemia-like pigmentation, and the marked anemia of primary type. The blood-pressure also was not markedly low, and is probably to be explained by the hypothesis that other chromaffin cells of the so-called chromaffin system supplied part of the necessary pressor substance which we designate as epinephrin.

6 Moody Building.

Empyema with Calcareous Pleura.—The patient, an Armenian woman aged 52, a resident of Cesarea, had been treated for the past six or eight months for pleurisy. When I first saw her she was suffering from cough and fever, the temperature being 101.4. Examination of the chest revealed a dulness posteriorly on the right side at the base of the pleural cavity. Exploratory puncture disclosed a quantity of pus. The patient was taken to the hospital and resection of rib performed. About 10 ounces of pus were evacuated, after which digital examination of the pleura showed it to be absolutely fixed, immovable and of stony hardness. Several pieces of this stony plate were broken off at the most dependent part and rubber-tube drainage established. The broken fragments show a deposit about ⅛ inch in thickness and of ivory hardness. The calcareous deposit as a whole is one solid plate about the size of the palm of one's hand. The case illustrates a supreme effort of Nature to wall off a pus cavity in the chest.—A. R. Hoover, M.D., Falas, Turkey.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

DISINFECTANT KRELOS, MULFORD—Krelos.—Mulford disinfectant krelos is said to be a solution of cresols or higher phenol homologues and rosin soap. It is stated to represent approximately: water, 15 per cent.; sodium oxide, 3 per cent.; pyridin, 1 per cent.; rosin acids, 20 per cent.; phenols, 23 to 25 per cent., and hydrocarbons, 36 to 38 per cent.

Actions and Uses.—Mulford disinfectant krelos is an antiseptic, germicide and deodorant.

It is said to be indicated wherever antiseptics or disinfectants are employed.

Manufactured by the H. K. Mulford Co., Philadelphia. No U. S. patent or trademark.

Mulford disinfectant krelos is said to be prepared by addition of coal tar distillates to a rosin soap solution.

It is a dark brown, almost black, liquid, having a specific gravity of about 1.066 and a characteristic cresol-like odor. With water it forms an almost white milk-like emulsion.

The bactericidal power of Mulford disinfectant krelos is determined by the Hygienic Laboratory method. The phenol coefficient, ranging from 5 to 7, is stated on the label.

ANTI-ANTHRAX SERUM.—
H. K. Mulford Co., Philadelphia.

Anti-Anthrax Serum, Mulford.—Anti-Anthrax Serum Mulford is prepared by immunizing horses against virulent anthrax bacilli. At least 80 to 100 Cc. should be injected intravenously as the initial dose. Marketed in packages containing two Mulford aseptic glass serum syringes of 10 Cc. each.

ANTISTREPTOCOCCUS SERUM.—
H. K. Mulford Co., Philadelphia.

Antistreptococcic Serum Scarlatinal, Polyvalent.—It is stated to be the serum of horses which have been treated with streptococci taken from scarlet fever cases. Marketed for immunizing purposes in syringes containing 10 Cc. Dose: 20 to 80 Cc.

Therapeutics

BOILS

Furuncles are probably due to an infection, that is, to pathogenic micro-organisms, and the bacterium which most frequently causes this condition is the *Staphylococcus aureus*, a very rapid-growing organism. While this infection is usually local, very frequently it becomes general, as evidenced by crops of boils.

While a patient's general condition should always be investigated and the urine examined to ascertain whether or not nephritis or diabetes is present, very frequently no systemic disturbance is found. Still, it is good treatment to cause free daily movements of the bowels, to modify the food or even temporarily to change it radically, and to give such tonic treatment as is indicated. That is, gastro-intestinal indigestion should be prevented if possible, iron should be given if needed, and often quinin seems of advantage.

If the patient has suffered from a series of boils there is either some general infection, or the patient's ability to inhibit the growth of the organism is insufficient. The treatment now often found satisfactory is the development and use of an autogenous vaccine. Many times, however, a modification of the diet, the giving of tonics, and the administration of yeast are quickly successful in preventing the repetition of furuncles. The yeast should be taken once or twice a day, depending on its laxative effect. While brewers' yeast was long advised, it acts no better than does the ordinary compressed yeast-cake. The dose is about one-third of a cake dissolved in a glass of water and taken once or twice a day. This sour drink is not disagreeable to most individuals. The exact action of the yeast has not been determined, but it seems to be of value in many infections. Primarily it may change the flora of the intestine somewhat, and secondarily its nuclein content may stimulate the formation of the polynuclear leukocytes of the blood. It also may stimulate the formation of an antiferment that is an aid in killing off or inhibiting the growth of the infective germs.

Yeast has been frequently advised and seems valuable as a wash for suppurating wounds or ulcerations, and as a vaginal douche, but probably its local action is only that of causing greater cleanliness, that is, removing mucus and pus, and thus preventing the growth of bacteria.

There is, perhaps, no one best local treatment for a boil, but some good suggestions are made by Dr. D. Macfarlan[1] of Philadelphia. He strongly advises against the incision of a common boil before it has reached the suppurative stage. He finds that to incise a boil in its formative stage does not hasten the cure and necessitates many dressings. If a boil is imminent, or has already begun to develop, he advises the application of a well-warmed poultice of bread and milk to which has been added a small amount of yeast. The poultice should not be too hot, as this will kill the action of the yeast, and should be changed three times daily. As soon as there is some softening of the tissues and the abscess is well delimited, which generally occurs in two or three days, a crucial incision should be made and the core removed at the first dressing, if possible. Macfarlan then advises that the wound be syringed and swabbed with potassium mercuric-iodid solution, 1 :2,000, and that wet dressings of the same solution be applied until the part is healed. He thinks that this salt of mercury, while less irritant than corrosive sublimate, is as highly antiseptic and tends to promote healing.

Though the recommendation of bread and milk poultices sounds a little ancient, still this method of applying moist heat and causing local hyperemia is efficient. Many times Bier's hyperemic treatment cannot be applied to the affected part, cupping is very painful and often of questionable value, and while a glycerin paste may sometimes act satisfactorily, it does not hasten the process as well as warm applications.

A warm alcohol poultice, consisting of one part of alcohol and four parts of warm water, applied by means of a mass of gauze covered with oiled silk and bound firmly to the part, is a very satisfactory treatment. This dressing need be changed but twice a day.

Whatever the application, the skin in the region of the boil should be covered with petrolatum or other fat to protect it from irritation, and no application should be made so hot as to injure the skin.

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[1] Macfarlan: Interstate Med. Jour., November, 1913, p. 1064.

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SATURDAY, FEBRUARY 14, 1914

A REVISION OF HYPOTHESES REGARDING ENDEMIC GOITER

There are few fields of epidemiologic investigation in which medical science has not been obliged to contend with inherited beliefs and widely disseminated conclusions regarding the etiology and mode of transmission of the disease in question, even when there has not existed any body of incontrovertible evidence to substantiate the traditional views. This has certainly been true of the supposed connection between the incidence of endemic goiter and the water-supply of the affected region. The alleged water-borne cause of this thyroid disease has attained especial prominence since H. Bircher related the distribution of the endemic malady in the case of Switzerland, where it has long been prominent, to the occurrence of very definite geologic formations. E. Bircher extended the hypothesis with the contention that the etiologic agent is removed from the rock formations in question in the guise of a colloidal organic substance, by the waters flowing from them. To the medical mind, goiter-producing waters thus became established as the sine qua non of endemic goiter. To support this hypothesis, statistics of the incidence of goiter in relation to special types of water-supplies were collected and marshaled to prove Bircher's contentions. Famous instances were cited, notably that of the village of Rupperswil, in which goiter was found to decrease after the introduction of a new water-supply from a different (geologic) source, and that of Asp, an isolated goiter region in the midst of a goiter-free district, where relief was similarly brought about.

These and related observations which spoke for a causal rôle played by the water, and in particular the reports of the disappearance of endemic goiter after alteration in the drinking-supply appeared so convincing, despite the contradictions which they not infrequently encountered, that the subsequent discussion has largely revolved about other features. The question was at once raised as to the nature of the etiologic agent in the water, when the primary contention was accepted as proved. We have referred in the past to the Bavarian reports denying the validity of the first hypothesis, that is, the interrelation of geologic factors and endemic goiter.[1] To-day we can add the results of a further extensive study carried out in the very regions of Switzerland which have been the sources of evidence for many years.[2] They show that when an accurate survey is made the distribution of endemic goiter proves to be entirely independent of rock, soil or water-supply. Regions having geologically comparable water sources show a varying and variable incidence of goiter, and furthermore, certain sections of villages having entirely different water-supplies may show a uniform frequency of the disease. The explanation for the unlike intensity of goiter in the various localities is not forthcoming. The reputed improvements following a change of water-supply, and so prominently referred to by Bircher, are now charged to hygienic reforms rather than altered geologic factors. Geographic features, traffic, etc., appear to be of far greater importance in determining the seat of disease.

It is noteworthy that in affected districts certain families and houses exhibit repetition of the disease. There is some evidence to suggest the possibility of localized infection in the home, for example. A hereditary relationship could not be demonstrated; for the fact that the children of goitrous parents are affected somewhat more frequently than others may be due to other simultaneously acting factors, such as frequency of contact, rather than the inheritance of disease. Females are everywhere more subject to endemic goiter than the male population, though the distinction does not appear clearly until after the age of puberty is reached. It seems not unlikely that the presumable enhanced functional activity of the thyroid in the female renders the gland more susceptible to the noxious agent.

To untangle the distorted evidence and conflicting conclusions of a generation means progress, even if no positive results follow. Nothing is so detrimental to scientific progress as the persistence of an erroneous theory. It diverts the investigator from the more direct road to the truth; and what is equally unfortunate, it sometimes encourages the practitioner to indulge in therapeutic measures which are based on an entirely mistaken conception of disease.

SOME PUBLIC ASPECTS OF THE WOOD-ALCOHOL INDUSTRY

Nearly a thousand cases of poisoning attributed to wood alcohol (mostly due to drinking it) have been reported in the literature since 1893, the date which marks the advent of methyl alcohol of a high grade of purity, like that sold under the trade names of "Columbian Spirits," "Colonial Spirits," "Manhattan Spirits,"

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[1] Endemic Goiter and Radio-Activity, editorial, THE JOURNAL A. M. A., June 7, 1913, p. 1798.

[2] Dieterle, T.; Hirschfeld, L., and Klinger, R.: Epidemiologische Untersuchungen über den endemischen Kropf, Arch. f. Hyg., 1913, lxxxi, 128.

"Pro Spirit," etc. The growing publicity of these distressing facts, accentuated by the agitation which has been widely fostered in print by The Journal among other publications, has directed attention to the danger from wood alcohol to such a degree as to arouse considerable uneasiness in the industries connected with its manufacture. We are informed from trustworthy sources[1] that the business involves the annual production and use of about ten million gallons of the substance with a capital investment in this country of about twelve million dollars in the industry, which employs over three thousand working people. It is interesting, therefore, to note the attitude taken in quarters in which business interests must inevitably permeate the purely humanitarian features that are also concerned. We are reminded that since man began to handle fire he has been utilizing dangerous substances to his own good purposes. It is, of course, true that many of the most useful substances are dangerous and poisonous. Deadly cyanids are used for extracting gold; poisonous strychnin is employed as a heart stimulant; toxic phenol finds wide application as a disinfectant, and corrosive acids are used in multitudinous operations.

Despite this indisputable statement, we cannot overlook the equally cogent fact that there are in all the cases mentioned inherent factors which of themselves limit the probability of harmful results in the uses of these poisons. Either there is an adequate understanding of the great dangers involved, or the applications are as a rule in the hands of experts who may be trusted to prevent untoward results. It is contended that methyl alcohol is used extensively as a valuable solvent and in the manufacture of many important materials, and that its legitimate use should not be prohibited. We may agree with these contentions and still raise the question whether or not in the case of the particular poison under discussion, methyl alcohol or wood spirits, the existing legislation is adequate to prevent those disasters which experience has already demonstrated to occur.

It has been noted that wood alcohol presents a unique case for legislation, not only because of its general resemblance to ethyl alcohol, but especially on account of the word "alcohol," which has a definite meaning to the chemist, but is rather associated in the lay mind with "drink." The dangers, however, are by no means limited to the possibility of introducing methyl alcohol in foods or drinks. When, in 1906, the general agitation for a tax-free, denatured ethyl alcohol brought about hearings before the committees of Congress, the injurious action of wood alcohol on the general health and the eyesight of working people handling it in the industries was strongly emphasized by manufacturers employing it, workmen and experts. In the light of this it is interesting to learn the conclusions and recommendations of an unbiased report primarily arrived at from the point of view of the chemist and the industries rather than the alleged one-sided position of the hygienist. This is now available in the pamphlet on wood alcohol prepared for the New York State Factory Investigating Commission by Charles Baskerville, chairman of the Committee on Occupational Diseases of the American Chemical Society.[2] The report does not attempt to pass final judgment on the once debated question which has already been discussed in The Journal,[3] namely, whether the morbid action of wood alcohol is due to the concomitant impurities or not. Economic reasons prohibit the extended use of chemically pure methyl alcohol in the arts and manufacturing industries, although the purest material is now used in certain products. The abuses of methyl alcohol prior to the more recent activity in the direction of pure foods and drugs must be admitted, and likewise the undoubted toxicity of the methyl alcohol of commerce.

There are at present sixty-three manufacturers of wood alcohol in the United States. In their plants the workmen are liable to come into contact with the vapor—one of the modes of intoxication—only in neutralizing the acetic liquor with lime and in filling the shipper containers. Baskerville maintains that general requirements for ample ventilation should meet these difficulties which, in fact, do not now exist in the works inspected in New York State. In the industries in which wood alcohol is employed it often serves as a solvent. Here it can exert deleterious action if the workmen (1) inhale the vapor; (2) dip their hands and arms into the liquor, or (3) drink it. Ample ventilation will avert the first danger; impervious gloves will prevent the second; only education can ward off the third. The precautionary measures are summarized in the New York report in the following recommendation as to laws which should be enacted if not already on the statute books:

1. To prohibit the presence of wood alcohol in any form of material intended for internal use.
2. To prohibit the presence of wood alcohol in preparations intended for external use on the human body.
3. To require ample ventilation in works in which wood alcohol is made or used in manufacturing products wherein the wood alcohol remains as such; the same law should apply where the products containing wood alcohol are used up, as for example, in varnishing vats in breweries.
4. To require containers in which wood alcohol is marketed to bear suitable display labels of warning.

After all is said, the fact remains that the manufacture and sale of Columbian Spirits and other forms of so-called "deodorized" methyl alcohol is a menace to the health of the people and ought to be suppressed. There is no valid argument for permitting its manufacture so long as an effective and cheap substitute exists.

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[1] These statistics are given on the authority of an editorial in the Journal of Industrial Engineering and Chemistry, 1913, v, 712.

[2] Baskerville, Charles: Wood Alcohol: A Report on the Chemistry, Technology and Pharmacology of and the Legislation Pertaining to Methyl Alcohol. This can be secured by writing to the Commissioner of Labor, Albany, N. Y. An abstract appears in the Journal of Industrial Engineering and Chemistry, 1913, v, 768.

[3] Methyl Alcohol as a Poison, editorial, The Journal A. M. A., Nov 30, 1912, p. 1974.

RHEUMATISM AND TUBERCULOSIS

To the physician of a past generation the term "rheumatism" implied an affection or group of affections characterized by certain common qualities, the chief of which were pain, an inclination to attack the joints and muscles, and a dependence on disordered metabolism. From this rather vague group certain diseases have been definitely set off as depending on specific causes. Among these the action of the gonococcus and streptococcus is now generally recognized. It was due to the persistent labor of the late Antonin Poncet that the dependence of a large group of cases on tuberculosis became recognized. He taught that a considerable number of cases of arthritis were due to tuberculosis in which no tubercles could be found, and in some cases the bacilli were only sparsely represented or might be absent. In the latter case the inflammation was attributed to the toxin of tuberculosis. Other observers have confirmed the findings of Poncet, but the frequency of this form of tuberculosis has not been appreciated generally. The opportunity to demonstrate such a lesion by anatomic research is not readily afforded, because after death from tuberculosis, the presence of tubercle bacilli in the fibrous tissues possesses little significance and cannot be brought readily into etiologic relations with past rheumatic or arthritic symptoms. Stock[1] undertook to procure evidence of the tuberculous nature of many so-called rheumatic diseases of the eye by means of the tuberculin reaction. For this purpose he made use of the focal reaction after injection of old tuberculin. He sought to obtain objective evidence of a reaction in the eye in addition to the subjective sensations of the patient. He found in positive cases pericorneal injection, injection of the ciliary vessels and other signs of local action. In a series of seventy-six cases of so-called rheumatic iritis, iridocyclitis and chorioiditis he found a general reaction to tuberculin in forty-five, and in seven of these, distinct focal signs were present.

Sons[2] has recently applied this method to the examination of rheumatic patients, testing them by means of focal signs in the affected joints. In thirteen cases of rheumatic joint affection he obtained a general reaction in eight cases and an organ or focal reaction in eleven cases. The joint symptoms were so limited to the previously affected joints and so different from the joint pains that form a part of the general symptoms of the reaction to tuberculin that he concludes that they indicate the tuberculous nature of the arthritic disease. He found a general and focal reaction in one case of acute articular rheumatism. In this case he succeeded in demonstrating the presence of tubercle bacilli in the blood. In some cases of apparent tuberculous rheumatism a marked improvement took place after the use of tuberculin.

The importance of this subject makes it necessary to weigh with unusual care the evidence in favor of the tuberculous nature of these cases of rheumatism. Reports of the occurrence of tubercle bacilli in the blood have been frequently made since the startling revelations of Rosenberger in 1909. Most of these reports have been made only on the results of microscopic examination. Several authors have shown fallacies in this method, and recently Kahn[3] has shown from experiments with large quantities of blood that both fibrin and the red blood-cells will leave residues, especially after being treated with antiformin, which are acid-fast and may easily be mistaken for tubercle bacilli. He concludes that animal experiment is the only method by which positive proof of the presence of tubercle bacilli in the blood can be furnished. His own experiments showed that the occurrence of these organisms in the blood is much rarer than has been supposed. Kachel[4] expresses a similar opinion. The evidence of the tuberculin reaction may be taken as indicating a tuberculous focus somewhere in the body, and the focal reaction is usually conceded to point to the affected organ. Hence the evidence for the tuberculous nature of the cases investigated by Sons appears to be convincing; but the fact that joint pains and swellings are common effects of bacterial toxins and especially form a part of the general reaction against tuberculin makes it necessary to be cautious in accepting even this evidence without ample confirmation. As the material is abundant and the subject an important one, we may hope that a positive decision of the question may not be long delayed.

THE CULTURE OF MEDICINAL PLANTS

The medical profession has long appreciated the desirability of reliable methods of standardizing those drug products which are prepared in comparatively crude ways from "raw materials" such as parts of plants, and decided advances have been made in securing some uniformity of composition and certainty of pharmacologic efficiency in the case of certain widely used extracts and tinctures derived from plant sources. The preparation of isolated "principles" and the separation of the active therapeutic agents from vegetable (and more recently from animal) tissues have marked a step in advance; but the products of the pharmacy, in distinction from those of the chemical laboratory, are too complex and, as yet, still too little understood, to be completely identified so readily with synthetic drugs or extracted alkaloids. So long as there are justifiable grounds for suspecting that not all the pharmacologic and therapeutic effects of the known constituents of medicinal plants are exhibited in certain tinctures and 'fluidextracts' made from these plants, the latter must continue to receive appropriate attention. This is not a plea for unlimited polypharmacy; it is a logical conclusion springing from the limitations of scientific knowledge in the face of clinical observation. An additional occasion to be concerned for the plants arises from the fact that in many cases they form the sole profitable source of the purified, isolated drugs of commerce.

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[1] Stock: Tuberkulose als Aetiologie der chronischen Entzündungen des Auges, Engelmann, Leipsic, 1907.

[2] Sons, E.: Organreaktionen mit Kochschen Alttuberkulin bei klinisch Nichttuberkulosen mit besonderer Berücksichtigung der "asthenischen" und "rheumatischen" Erkrankungen, Beitr. z. Klin. d. Tuberk., 1913, xxviii, 251; abstr., The Journal A. M. A., Nov. 8, 1913, p. 1855.

[3] Kahn, E: Secondary Tuberculosis, Beiträge zur Klinik der Tuberkulose, 1913, xxviii, No 2.

[4] Kachel: Tubercle Bacilli in the Blood-Stream, Beiträge zur Klinik der Tuberkulose, 1913, xxviii, No. 2.

The culture of the medicinal plants, therefore, deserves greater consideration than has been accorded to it in the past. Although agricultural science has for many years devoted much energy to the elucidation of the relations between soils and plant crops and to the application of advantageous fertilizers, and has within recent years been largely concerned with the improvement of crops by the application of the methods of plant-breeding, the medicinal plants have almost without exception received the indifference which is shown to "wild flowers." Practically no serious attempts have been made in this country to extend the best methods of modern agricultural research to drug plants with a view to improving their medicinal qualities. The culture of tobacco illustrates what purposeful field technic can do to change the chemical composition of a species;[1] and the story of the enrichment of the sugar content of the sugar-beet by appropriate selection furnishes an even more striking illustration.

The Office of Drug-Plant and Poisonous-Plant Investigations of the Federal Bureau of Plant Industry has long recognized the necessity that exists for the improvements just referred to; and steps have been taken to inaugurate work in this direction. An interesting instance of the situation that obtains at present is furnished by a study of the belladonna plant, *Atropa belladonna,* probably the most important of the group of solanaceous plants which depend for their therapeutic action on mydriatic alkaloids.[2] We are informed that the supply of this plant in the wild state is largely exhausted, and future supplies must necessarily depend on cultivation. If the hopes for the future are based on the actual facts of the past we may confidently look for great progress to be made in this direction. The government chemical biologist, Dr. Sievers, informs us that thus far nothing has been found to indicate any correlation between the physical appearance of the plant and the alkaloidal content of its leaves. Luxuriant growth is by no means a criterion of the medicinal value of a plant. One may easily be prepared for this conclusion in view of the fact that many of the drugs or alkaloids represent intermediate products in the metabolism of plants; so that an influence which interferes with the natural growth (as when the tops of the tobacco-plant are removed) may actually lead to an abnormal accumulation of a pharmaceutically desired product which would, in the course of unhindered growth, be converted into other substances.

The variations in the percentage of alkaloids in the leaves of different belladonna plants is exceedingly large. This makes it a difficult matter to determine to what extent soil and climate influence the development of the alkaloids. Where such wide variations exist among individual plants the testing of a general sample from all plants collectively is not always a safe means of judgment. There are certain indications that promise to lead to success in the pursuit of appropriate methods of culture. For example, a considerable number of plants with leaves rich in alkaloids in one season are found to have equally rich leaves in the following season. Furthermore, they frequently manifest the same characteristics at the various stages of growth during the season, in comparison with other plants. We are glad to record these beginnings toward the application of the methods of selective breeding, not only because they promise to lead to a way out of the present chaos in respect to the chemical composition of medicinally important economic plants, but also because they may serve to awaken a more wide-spread concern for an important work of the immediate future.

MEDICAL SUPPORT OF THE ANTIVIVISECTIONISTS

Antivivisectionists are usually able to secure a few men who possess the M.D. degree to appear at their meetings and state that experiments on animals are useless. Naturally, because of its scarcity, the testimony of such persons is greatly prized by the opponents of experimentation, and much is made of their professional standing. At the recent International Antivivisection Congress in Washington, "Dr. Richard Cowen, F.R.C.S., London," was on the program for a paper entitled "Vivisection Misleading." What he said was quoted widely in the newspapers, and he was pointed out as an "eminent authority," a "noted savant" and a "big surgeon," who denounced vivisection and declared that it had not added to knowledge of disease.

Investigation has shown that Mr.—not "Dr."—Cowen is only a licentiate of the Irish colleges, that he is not a fellow of the Royal College of Surgeons, London, and that he is not attached to any hospital except a small place in southwest London which has twenty-three beds. In other words, the professional status ascribed to him again illustrates the carelessness of antivivisectionists about telling the truth. There are, of course, some men, usually with bizarre medical training, who are impervious to evidence, and, like the strange persons who argue that the earth is flat, "stand pat" with the middle ages. Such persons set themselves against all the methods that have yielded the triumphs of modern treatment and sanitation.

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[1] Stutzer, A., and Goy, S.: Der Einfluss der Beschattung des Tabaks auf verschiedene Bestandteile der Blätter, Biochem. Ztschr., 1913, lvi, 220.

[2] Sievers, A. F.: Individual Variation in the Alkaloidal Content of Belladonna Plants, Jour. Agric. Research, 1913, i, 129.

Against the testimony of these few benighted medical men are the laboratories for animal experimentation connected with medical schools, hospitals, boards of health, government bureaus and privately endowed institutions for research. Against them also are all the means taken by governmental authorities for the preservation of public health — means based almost directly on the results of animal experimentation. Against them also is the overwhelming conviction among enlightened physicians and surgeons that animal experimentation has been and must continue to be of the utmost importance to the advancement of medicine.

The recent International Medical Congress (in London, 1913), composed of representatives from the entire civilized world, passed with only one dissenting vote (that of a woman physician) the following resolution:

> *Resolved*, That this congress records its conviction that experiments on living animals have proved of the utmost service to medicine in the past, and are indispensable to its future progress. That accordingly, while strongly deprecating the infliction of unnecessary pain, it is of opinion, alike in the interests of man and of animals, that it is not desirable to restrict competent persons in the performance of such experiments.

And in 1908 the two greatest scientific bodies of the United States, the American Medical Association and the American Association for the Advancement of Science, passed without a single protest the following resolutions:

> Whereas, from time to time, attempts, fostered largely by erroneous statements and accusations and false sentiment and prejudice, are made in some parts of this country to enact specific legislation, prescribing the conditions under which experiments on animals may or may not be performed; be it
>
> A. *Resolved*, by the Association, That animal experimentation has been of incalculable benefit to medical science and art, the progress of which is as absolutely dependent on experimental methods as are all the physical and natural sciences.
>
> B. *Resolved*, That no abuse of the practice of animal experimentation in this country has been shown to exist to warrant specific legislation, nor is there any probability of such abuse arising.
>
> C. *Resolved*, by the Association, That the unrestricted performance by proper persons of scientific experiments on living animals is essential to the maintenance and progress of medicine and biology.

When the antivivisectionists are shouting the name of some obscure doctor who supports their views, their enthusiasm might properly be sobered by the foregoing authoritative declarations.

Current Comment

ANIMAL SPIRITS — NERVOUS IMPULSES

Despite the progress of science and the expansion and more precise definition of knowledge from generation to generation, we still adhere to modes of expression which had their origin in the cruder conceptions of earlier days. Few persons ever stop to consider, when they speak of "a man of spirit," that they are unwittingly employing the language of the days of Galen. Yet this is evidently the survival of the old doctrine of spirits. We may believe that Galen had a conception of the nerve-trunks as conductors of something — he called it spirits — to and from the brain and spinal cord.[1] The natural spirits were that undefined property which gave to blood the capacity of nourishing the tissues of the body. The vital spirits were acquired in the heart; and when at last the blood with its vital spirits went to the brain and experienced a sort of refinement for the last time, the animal spirits were separated from it and carried to the body by the nerve-trunks. Here, then, is the beginning of the modern idea of innervation; the animal spirits of Galen have become the nervous impulses of to-day. The ancient "spirits" in the nerves were converted into the *succús nerveus* of later eras when the rising school of physicists began to center their interest in the properties of fluids which can conduct disturbances without themselves traveling. Subsequently it was the *vis nervosa* of Albrecht Haller that furnished the stimulus to the muscle. For a time this was identified with animal electricity. In the present day we express the same underlying conception by the term "nervous impulses." These are not electricity, but they produce it and can be manifested by it. As Harris[1] has said, each generation must think and express itself in the language of its own time.

THE CORONARY CIRCULATION

Precisely like every other muscle, the heart must be profoundly influenced in its working capacity by the character and abundance of the blood-supply which it receives. Owing to the perfection of modern experimental technic it is now possible to study the contractile efficiency of the heart quite independently of the rest of the body. Some of the agencies which tend to affect it have been determined by Markwalder and Starling,[2] who have found that the coronary circulation is intimately dependent on the arterial pressure. In confirmation of other workers, they also find that epinephrin causes dilatation of the coronary vessels, thus giving the weight of added authority to this solution of a somewhat debated question. Obviously it is a matter of no little importance to know in what sense the circulation and hence the nutrition of the cardiac musculature are influenced by alterations in the chemical composition of the blood which traverses it. Carbon dioxid was found to have the same effect on the coronary vessels as on the other blood-vessels and the heart, namely, relaxation or dilatation. In asphyxia the circulation through the heart is decidedly augmented. In fact, whenever the heart is failing, the circulation through its vessels is increased, and this increase may be marked even when the aeration of the blood is well carried out so that no opportunity is allowed in it for the accumulation of carbon dioxid. Under the conditions giving rise to asphyxial and related conditions of the cardiac tissue it is more than probable that non-volatile metabolites are produced by the imperfectly supplied heart-muscle. They are the most potent agents in causing dilatation of the coronary vessels. By this means a local mechanism is supplied by which the heart-muscle will increase the circulation through itself whenever increased demands are made on its functional capacity. This is only another illustration of the almost endless effective adaptations by which the parts of the organism tend to adjust themselves advantageously to changing physiologic conditions.

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[1] Compare Harris, D. F.: History of the Views of Nervous Activity, Science Progress, January, 1914, p. 505.

[2] Markwalder, J., and Starling, E. H.: A Note on Some Factors which Determine the Blood-Flow through the Coronary Circulation, Jour. Physiol., 1913, xlvii, 275.

SOUTH CAROLINA TO THE FORE

The *Journal of the South Carolina Medical Association* is the latest medical journal to discard the old régime and join forces with those that represent the newer ideals of medicine. The January number of this journal is clean from cover to cover. Only such medicinal substances as have been passed on and accepted by the Council on Pharmacy and Chemistry are now eligible to its advertising pages. The time should be past when the profession is willing to permit the exploiters of proprietary frauds to pay the bulk of the printing and publishing bills of the medical journals which it patronizes. In South Carolina it evidently *is* past. The South Carolina Medical Association is neither a large nor a wealthy organization, yet it is willing to make a not inconsiderable financial sacrifice for the sake of principle. The physicians of this Southern state evidently believe that the Council, which their society, with other component parts of the American Medical Association, brought into being, should receive the moral support of the profession, even though by so doing their official organ loses some "easy money." South Carolina is to be congratulated.

SANITARY SUPERVISION OF A FLOOD RELIEF EXPEDITION

It has been said that an army marches on its stomach. A modern addition to this adage would be that its effectiveness depends on the health of its units. Industrial organizations, likewise, are learning that attention to sanitation and the care of the health of the individual worker is a first consideration for working efficiency. An illustration of the application of this principle is afforded by a report to the general manager of the Pennsylvania Railroad by the superintendent of an emergency relief expedition for repairing damage to the railway in the tremendous floods in western Pennsylvania, Ohio and Indiana in 1913. The floods caused the destruction of miles of tracks and scores of bridges, and railway traffic was almost absolutely suspended in the entire flood region. The enormous damage wrought to the Pennsylvania lines is graphically described and illustrated in a pamphlet issued by the Pennsylvania Company. To open up the roads in the quickest possible time not only required all the resources at the command of those involved, but also compelled them to accept the proffered assistance of other roads. The Long Island Railroad sent a relief party to the Pennsylvania Lines west of Pittsburgh under the command of Superintendent Thornton, comprising over seventy men skilled in emergency railway repair work, with the company surgeon, Dr. J. Kent Worthington, as sanitary and medical officer. The wisdom of providing for the sanitary supervision of the expedition is shown in the outcome. A complete outfit of medicines, bandages, instruments, etc., to meet almost any emergency was provided, of course, but outside of a few minor accidents, little work in this line was required during the period of about a month which the relief party spent in this work. The chief duties of the medical officer were of a preventive character, and included close supervision of the food-supply and its preparation, the water-supply and the camps and bunk-cars, the latter being kept thoroughly cleaned and disinfected, with proper attention to ventilation, etc., and the inspection and examination of all wells or other sources of water-supply before any water was allowed to be used. Each member of the party was personally inspected and questioned each day by the medical officer as to his condition, and approaching trouble was immediately attended to. In addition, the physician lent his assistance to the work of the communities in which he was stationed. The outcome of this care of the men was that the expedition returned home with every man in better physical condition than when he started, as the result, the superintendent says, of this careful supervision of the medical officer. The superintendent in his report makes the general observations that he considers the presence of a medical man with an expedition of this sort as absolutely essential to its efficient work; that the theory of this is thoroughly recognized in military affairs; that there is no reason why it should not apply to other classes of work of a similar character, an army, a football team or a railway force, and that unless the members of an expedition, whatever it may be, are kept in good physical condition, inefficiency will result. This represents the application to industrial affairs of the principle of sanitation first which permitted the building of the Panama Canal.

INDUSTRIAL SANITATION IN THE TROPICS

Not only the railroads of this country, but also the great tropical plantation companies have found it profitable to apply to their enterprises the principles of modern sanitation, thereby keeping the death-rate among their employees at a point that compares favorably with the rates of communities more favorably situated. The methods employed are efficient medical and sanitary organization and the application of the methods demonstrated in the work on the Panama Canal. In its detailed reports of the medical department for 1912 and 1913, the United Fruit Company, one of the largest of these plantation enterprises, with plantations in Panama and other Central and South American countries and in Cuba, with an aggregate of over 65,000 employees, shows some astonishing results. For instance, in the Panama division, for 1912 the average death-rate for the whites among the employees was 12 and of the blacks 11.36 per thousand. In 1913 the death-rate among the whites was 3.33 and for the blacks 7.7, giving a general average of 7.5 per thousand. This extremely low mark was not attained in the other divisions of the company's plantations, but with a splendid sanitary organization, by large expenditures for suitable houses, hospitals, drainage and mosquito elimination, and by periodic visits to all the plantations by physicians, the health has been kept at a high average. The sanitary forces always are first in the field when new plantations are opened up, and all the principles of modern sanitation in the tropics are applied as rapidly as possible. The reports state that this work has not followed in the wake of that on the Panama Canal, but that the work of mosquito elimination and other measures were applied immediately after the demonstration of mosquito transmission of the tropical fevers. The problems involved are difficult and the work is enormous, but this large corporation has found that it pays abundantly. The reports show that the personnel of the medical organization has been drawn from all of the best medical schools in the United States, and constitutes an efficient sanitary force. With the completion of the Panama Canal the large plantations like those of the United Fruit Company will continue to furnish opportunities for the young men from the colleges to gain experience and do research work in the tropical diseases.

SMOKING ON STREET-CARS

Sooner or later, every city large enough to need street-cars has to settle this question: Should or should not smoking be permitted on such cars? In all cars of the closed type—the most prevalent kind—when smoking is permitted it is usually limited to the front or rear platforms. As passengers need to use both the rear and front platforms in boarding or leaving cars, the condition of these parts of the car is a matter that directly concerns the public health. While many cities have antispitting ordinances, these laws are, in the majority of instances, more honored in the breach than in the observance. As a result, the street-car platforms where smoking is permitted become both an offense to the eye and a menace to health. Where smoking is allowed on the front platform, and particularly in that type of car that has the front platform enclosed, the motor-man works from morning until night in a tobacco-smoke-impregnated atmosphere, while the passengers who leave the car by the front platform have to pass through this expectoration-decorated "fume-chamber." When the question, Shall smoking be abolished on street-cars? comes up for settlement with any city, there can be only one answer. From the point of view of hygiene and common cleanliness, to say nothing of the comfort of the majority, smoking on street-cars is an indefensible nuisance.

Memory.—Now and then one learns something, but one forgets the whole day long. Moreover, our memory is like a sieve, the holes of which in time get larger and larger. The older we get, the quicker anything intrusted to it slips from the memory, whereas, what was fixed fast in it in early days is there still. The memory of an old man becomes clearer and clearer, the farther it goes back, and less clear the nearer it approaches the present time, so that his memory, like his eyes, becomes long-sighted.—Schopenhauer.

Medical News

CALIFORNIA

Opening of Polyclinic.—The San Francisco Polyclinic formally opened its new building, which has been erected at a cost of $25,000, and celebrated the twenty-fifth anniversary of the founding of the institution, January 24. The institution now cares for about 600 patients a month at a cost of about $700.

New Officers.—Contra Costa County Medical Society at Oakland, January 19: president, Dr. Ursa S. Abbott, Richmond; secretary-treasurer, Dr. Earl B. Fitzpatrick, Martinez.——Monterey County Medical Society at Salinas, January 9: president, Dr. Garth Parker; secretary, Dr. Hezediah T. Crabtree, both of Salinas.——Fresno County Medical Society at Fresno, January 6: president, Dr. Charles O. Mitchell, Fowler; secretary, Dr. Lamont R. Willson, Fresno.——San Joaquin County Medical Association, at Stockton, Dec. 26, 1913: president, Dr. John D. Dameron; secretary, Dr. Raymond T. McGurk, both of Stockton.——Long Beach Branch of the Los Angeles County Medical Association, Dec. 12, 1913: president, Dr. Wilmer L. Dickerson, Long Beach; secretary-treasurer, Dr. C. G. Foote.

DELAWARE

Hospital to Be Enlarged.—The Physicians and Surgeons Hospital, Wilmington, is to be enlarged by an addition to cost $4,200.

New Officers.—New Castle County Medical Society at Wilmington: president, Dr. George W. K. Forrest; secretary-treasurer, Dr. Talison H. Davies, Farnhurst.

State Board Reappointed.—Governor Miller has reappointed as the State Board of Medical Examiners Drs. Henry W. Briggs and Abram E. Frantz, Wilmington, and Drs. Edwin S. Anderson and Presley S. Downs, Dover.

Personal.—Drs. Pietro A. M. Rovitti, Napoleon B. Morrison, Bernard A. Jenkins and Harry M. Frist have been appointed vaccine physicians for Wilmington.——Dr. Wilson R. Pendleton, Wilmington, has been appointed superintendent of the State Sanatorium for the Treatment of Tuberculosis, Montrose, N. C.

IDAHO

New Officers.—Bannock County Medical Society, at Pocatello, January 21: president, Dr. Edward N. Roberts; secretary-treasurer, Dr. Joseph V. Clothier, both of Pocatello.

Northern Idaho Physicians Meet.—The first meeting of the Northern Idaho District Association since its organization was held in Lewiston, January 15; the opening address was delivered by Dr. James M. Fairly, Orofino. It was decided to hold the next meeting at Lewiston.

ILLINOIS

New Officers.—Stephenson County Medical Society at Freeport, January 29: president, Dr. Karl F. Snyder; secretary, Dr. J. Sheldon Clark, both of Freeport.

State to Distribute Antityphoid Vaccine.—The State Board of Health announced, January 4, that free vaccine for the prevention of typhoid fever was ready for distribution to all parts of the state.

Personal.—Dr. Ralph T. Hinton, superintendent of the Elgin State Hospital was appointed superintendent of the Peoria State Hospital, February 9, succeeding Dr. Henry J. Gahagan, who has been transferred to the Elgin State Hospital.——Dr. Marcus Whiting, Peoria, who is about to retire from practice and live on a farm in Northern Wisconsin, was given a farewell dinner by the Peoria Medical Society, at which he was presented with a gold-headed cane.——Dr. William Freeman, North Crystal Lake, is reported to be seriously ill with typhoid fever.——Dr. Clesson C. Atherton, Elgin, physician to the Lincoln State School and Colony, has been appointed assistant superintendent of the Watertown State Hospital.

Chicago

Monod in Chicago.—Dr. Gustav Monod, Paris, will speak before the Chicago Medical Society March 4.

Post-Graduate School Reconstructed.—In celebration of the reconstruction of the Post-Graduate Medical School of Chicago, the directors held a reception in the institution, January 22, from 2 to 9 p. m.

Personal.—Dr. Arthur R. Edwards has completely recovered from the appendectomy and cholecystectomy performed January 6, and has resumed practice.——Dr. Charles F. Sanborn has resigned as assistant warden of the Cook County Hospital, and has been appointed superintendent of the Cincinnati Hospital.——Dr. Carl, Koenigsberg, Germany, is to be assistant to Dr. Albert J. Ochsner at the College of Physicians and Surgeons of Chicago. His position in Koenigsberg will be filled by a surgeon from Chicago, who will go to Koenigsberg as exchange lecturer.——Dr. Frank Smithies has been elected gastro-enterologist to the Augustana Hospital.

Housing Conditions in Chicago.—According to the *Bulletin of the Chicago Department of Health*, housing conditions in the city are improving, as far as the construction of new houses and tenements is concerned. But the conditions in the old buildings in the older parts of the city do not show great improvement. In 1913, the department passed 9,788 plans for dwellings and tenements; 38 per cent. of these were for single family dwellings. These are built in outside parts of the city, and are of a very desirable type. It is stated that 77.43 per cent. of the total number of dwellings and tenements erected during 1913 were designed for two families. This means that, under the conditions prescribed for the erection of such dwellings, there is an immense improvement in the matter of air, light and sunshine, which will make for improvement in health conditions. It is also said that of 15,105 apartments, provided in the buildings erected during the year, 96.34 per cent. were provided with bath-tubs.

Health and the Open Winter.—The old-time theory that an open winter was prolific of ill-health seems to be disproved for the present season, in the city of Chicago, at least. The winter has been unusually mild, the thermometer on January 28 recording 60 degrees. There has been practically no snow throughout the months of December and January. According to the *Bulletin of the Chicago Department of Health*, there has been for the eight weeks ending January 24 a reduction of 29.6 per cent. in the pneumonia death-rate as compared with the average of a like period for the previous five years; 23.3 per cent. in influenza and 7.8 per cent. in the rate for tuberculosis. There have likewise been reductions of the incidence of measles, which dropped 82 per cent.; scarlet fever, 54 per cent.; diphtheria, 24.2 per cent., and whooping-cough, 18.2 per cent. The *Bulletin* accounts for this by the opportunity given by the mild weather for out-door living and better ventilation in living quarters. It is estimated that in the diseases named there has been a saving of 515 lives during the six weeks of December and January for which the comparison was made.

INDIANA

New Officers.—Clark County Medical Society: president, Dr. W. B. Marshall Varble; secretary, Dr. Isaac Ruddell, both of Jeffersonville.

Medical Staff Banqueted.—The Sisters of St. Elizabeth's Hospital, Lafayette, entertained the members of the medical staff and the lecturers of the training school for nurses, January 28. Dr. George F. Beasley officiated as toastmaster.

Personal.—Dr. T. Victor Keene, Indianapolis, fractured his left arm when his automobile overturned near Indianapolis, January 30.——Dr. John S. Ragan has been appointed physician at the Indiana Boys' School, Plainfield.——Dr. Joseph R. Bloomer, Rockville, has been appointed local surgeon of the Vandalia system.

Anti-Tuberculosis Society Meets.—The annual meeting of the State Society for the Study and Prevention of Tuberculosis was held at Indianapolis, January 31. Drs. Henry B. Shacklett, New Albany; S. Edgar Bond, Richmond; Fred A. Dennis, Crawfordsville; Eric A. Crull, Fort Wayne, and James A. Snapp, Goshen, were elected directors.

Cost of Care of Insane.—According to the report of the Board of State Charities for 1913, it cost the state $204.79 to maintain each inmate of the five state insane hospitals during the year. At the close of the year there were 6,100 known insane in the state; of these, 5,577 were in public institutions, and 523 in outside institutions; 5,090 were under state care and 1,010 without state care. The board emphasized strongly the overcrowded condition of the state hospitals.

KENTUCKY

New Officers.—Clark County Medical Society at Winchester, January 24: president, Dr. William A. Bush; secretary-treasurer, Dr. Harvey R. Henry, both of Winchester.

New Hospital Turned Over to the City.—The new City Hospital, Louisville, was turned over to Mayor Buschemeyer by the Hospital Commission, February 7. The ceremonies, which were brief, were held in the amphitheater of the new hospital.

To Prevent Blindness.—At the meeting of the Jefferson County Medical Society, January 19, unanimous endorsement was given to the bill introduced by the Kentucky Society for the Prevention of Blindness which provides for a strict report of cases of trachoma or ophthalmia in new-born children.

Personal.—Dr. Lewis S. McMurtry has been elected president of the medical staff of the John N. Norton Memorial Infirmary, Louisville, vice Dr. J. B. Marvin, deceased.——Dr. George W. Lawrence, Louisville, is reported to be critically ill at his home.——In the case of Doretta Hill against Dr. John W. Kremer, Louisville, in which claim for $20,000 damages was made for alleged malpractice and neglect, the judge, after hearing the evidence of the plaintiff, instructed the jury to return a verdict in favor of Dr. Kremer.

Staff for Louisville City Hospital.—The method of the appointment of the visiting, medical and surgical staff for the new City Hospital has been the subject of considerable comment on the part of the profession as the furnishing of the hospital nears completion. The Commercial Club has advocated the passage of a bill by the legislature now in session providing for the control of the new City Hospital by a non-political commission composed of four members with the mayor ex-officio. The mayor, who is a physician, has signified his opposition to this plan of government and has announced that he has placed the medical and surgical control of the City Hospital in the hands of the board of trustees of the University of Louisville, Medical Department. This announcement caused a vigorous protest from an organization called the Medical Club, composed, largely, of physicians not connected with the Medical Department faculty. These objections have been overcome by the announcement by the trustees of the university that the appointments are to be made by a special committee composed of the following: Drs. Ap Morgan Vance, one of the members of the commission that erected the hospital, and Ben Carlos Frazier, representing the non-school men; Drs. Henry H. Grant and William A. Jenkins, representing the faculty of the University, with the assistant dean, Dr. David C. Morton, ex-officio member of the committee. According to the instructions from the trustees to this committee, they are to recommend to the board of trustees, which will turn over the recommendations to the Board of Public Safety for appointment, a staff of physicians and surgeons who are to look after the sick poor as a chief consideration, the teaching portion of the hospital being a secondary consideration. They are instructed to use their judgment in regard to the appointment of members of the medical faculty for the school term and non-school men during the vacation period. The committee will shortly meet and make the selection of the staff to be recommended for appointment by the Board of Public Safety.

LOUISIANA

Hospital to Purchase Policlinic.—At a meeting of the board of directors of the Charity Hospital, New Orleans, January 19, it was decided to acquire the Policlinic property at Tulane Avenue and Liberty Street, using the building for clinical purposes.

Railroads Will Help State Health Board.—At a conference between representatives of the railroads of the state and Dr. Oscar Dowling, a committee consisting of Dr. E. Denegre Martin and J. F. Porterfield was appointed to confer with the board in regard to the reforms deemed necessary.

Medical Society Organized.—At a meeting of the medical men of Acadia Parish at Crowley, January 30, the Acadia Parish Medical Society was organized, and the following officers were elected: president, Dr. David Dougal Mims; secretary, Dr. M. L. Hoffpauir, both of Crowley. The first meeting of the society will be held April 2.

Sanatorium Organized.—The Cooperative Sanatorium Association was organized at Lafayette, January 26, with the following officers: president, Dr. John D. Trahan; vice-presidents, Drs. Frederick R. Tolson and Eric Guilbeau; secretary, Dr. John F. Mouton, and treasurer, Dr. Felix E. Girard. The institution will be named the Attakapas Sanatorium.

New Officers.—Rapides Parish Medical Society at Alexandria, January 5: president, Dr. Robert L. Randolph; secretary-treasurer, Dr. James A. White, both of Alexandria.——Lincoln Parish Medical Association at Ruston: president, Dr. Joseph L. Smith, Dubach; secretary, Dr. William S. Rutledge, Ruston.——Avoyelles Parish Medical Society at Bordelonville: president, Dr. Sambola J. Couvillon; secretary, Dr. Paul E. Brahic, both of Moreauville, both reelected.——St. James Parish Medical Society at Convent: president, Dr. Clifford A. Himel, St. James; secretary-treasurer, Dr. Joseph E. Doussan, Lutcher. ——Orleans Parish Medical Society at New Orleans: president, Dr. Charles N. Chavigny; secretary, Dr. Edward L. King, both of New Orleans.

MICHIGAN

Hospital Notes.—The State Commission has appointed a board of control for the new municipal John F. Eilbert Memorial Hospital, Wyandotte.——The Detroit Board of Health has asked for an appropriation of $1,744,445, of which $1,250,000 is for hospital purposes alone.

Personal.—Dr. John L. Burkart, Big Rapids, assumed charge of the office of secretary of the State Board of Health, February 2, succeeding Dr. Robert M. Dixon, Lansing, who has assumed his new duties as superintendent of the State Home for Epileptics.——Dr. Louis H. Chamberlin, Grand Rapids, left for Europe February 1.——Dr. and Mrs. L. J. Pelletier, Ludington, returned from Europe this month.

Detroit Pediatrists Organize.—The Detroit Pediatric Society held its first annual meeting January 28, and elected the following officers: president, Dr. Thomas B. Cooley; vice-president, Dr. Herbert M. Rich; secretary-treasurer, Dr. Francis Duffield. The society is to hold eight regular meetings each year, and the membership is composed of active members, limited to twenty, associate members and honorary members.

New Officers.—Delta County Medical Society, at Escanaba, January 20: president, Dr. James Mitchell, Gladstone; secretary-treasurer, Dr. Harry W. Long, Escanaba.——Houghton County Medical Society at Houghton: president, Dr. Peter D. MacNaughton, Calumet; secretary-treasurer, Dr. Isadore D. Stern, Houghton.——Muskegon-Oceana Counties Medical Society, at Muskegon, January 2: president, Dr. Jacob Oosting; secretary, Dr. Jacob T. Cramer, both of Muskegon. ——Hillsdale County Medical Society at Hillsdale, Dec. 30, 1913: president, Dr. Burt F. Green; secretary-treasurer, Dr. Charles T. Bower, both of Hillsdale.——Ionia County Medical Association at Ionia: president, Dr. Harry B. Knapp; secretary, Dr. John J. McCann, both of Ionia.——O. M. C. O. R. O. (Otsego, Montgomery, Crawford, Oscodo, Roscommon, Ogeman) Counties Medical Association, at Grayling: president, Dr. Frank E. Abbott, Sterling; secretary, Dr. Robert J. Beebe, West Branch.

MINNESOTA

Personal.—Dr. C. L. Blunt has returned after eight months in Bangkok, Siam.——Dr. C. A. Scherer, Minneapolis, has been appointed intern at Lymanhurst, in charge of the Minneapolis Municipal Tuberculosis Camp which was opened February 1.

Hospital Notes.—A hospital has been established by the physicians of Rush City. The institution occupies the second floor of the Electric Light Building, and will be in charge of a trained nurse.——A bond issue has been authorized by the Minneapolis City Council for the construction of a new hospital for contagious diseases, to be eight stories high, three stories of which will be completed and furnished this year.

War on Tuberculosis.—At a meeting of the board of directors of the State Antituberculosis Association, it was reported that $200,000 has been obtained during the year for the state institution at Walker, which now can accommodate 175 patients. More than $269,000 has been appropriated for sanatoria in Ramsey, Hennepin, Polk, Clay, Becker, Goodhue, Lincoln, Pipestone, Marshall, Lake, Renville, St. Louis, Ottertail, Wabasha, Lyon, Murray and Watonowan counties.

New Officers.—Ramsey County Medical Society, at St. Paul, January 26: president, Dr. John Milton Armstrong; secretary, treasurer, Dr. Charles E. Smith, Jr., both of St. Paul.——Park Region District County Medical Society, at Fergus Falls, January 22: president, Dr. Theodore N. Kittleson, Fergus Falls; secretary-treasurer, Dr. Randall Ashby.——Upper Mississippi Medical Society, at Brainerd, January 6: president, Dr. Frank H. Allen, Staples; secretary, Dr. Francis J. A. Bennet, Brainerd. ——Goodhue County Medical Society, at Red Wing, January 6: president, Dr. Peter H. Cremer; secretary-treasurer, Dr. Alonzo T. Conley, both of Cannon Falls.——Winona County Medical Society, at Winona, January 6: president, Dr. James L. Lynch; secretary, Dr. Hugh F. McGaughey.——Blue Earth County Antituberculosis Society, at Mankato: president, Dr. John W. Andrews; vice-president, Dr. Chelsea C. Pratt, both of Mankato.——Camp Release District Medical Association, at Montevideo, January 29: president, Dr. Herman M. Johnson, Dawson; secretary-treasurer, Dr. Reuben D. Zimbeck, Montevideo.——Brown and Redwood Counties Medical Society, at New Ulm, January 29: president, Dr. Dirk V. Gleysteen, Lamberton; secretary-treasurer, Dr. George F. Reineke, New Ulm.

MISSISSIPPI

Health of the State.—The Mississippi Health Bulletin for the first nine months of 1913 shows that during this period there were 25,641 births, of which 13,967 were white and 11,674 colored. During the same period 15,104 deaths were reported, of which 5,332 were whites and 9,772 negroes. The malarial patients reported were 49,159, almost equally divided between white and colored patients. Tuberculosis during the same time was reported in 3,665 cases, of which 1,583 were whites and 2,062 negroes, the white death-rate from tuberculosis being 6.7 per cent. and that of the negroes 15.1 per cent.

New Officers.—Lauderdale County Medical Society at Meridian: president, Dr. T. D. Bourdeaux; secretary-treasurer, Dr. Albert F. Douglas, both of Meridian.——Hinds-Rankin Counties Medical Association: president, Dr. Robert S. Curry, Jackson; secretary-treasurer, Dr. James H. Fox, both of Asylum, both reelected.——Northern Mississippi Tri-County (Tate, Panola and De Soto) Medical Society at Senatobia, January 29: president, Dr. James M. Jenkins, Crenshaw; vice-president for Tate County, Dr. Bucy; for Panola County, Dr. Albert P. Alexander, Como; for De Soto County, Dr. C. L. Maples, Olive Branch; secretary-treasurer, Dr. William D. Smith, Senatobia.——Meridian Tuberculosis Association: Dr. T. D. Bourdeaux, vice-president.

MISSOURI

New Hospital Opened.—The People's Hospital at Bevier, recently erected at a cost of $35,000, was opened last week. Dr. Terrence P. Gronoway is in charge of the institution.

District Tuberculosis Hospital Law Unconstitutional.—The supreme court has declared unconstitutional the law providing for tuberculosis hospitals, on account of the irregularity of the tax levy.

Personal.—Dr. Robert P. C. Wilson, Platte City, has been elected superintendent of the State Colony for the Feeble-Minded, Marshall.——Dr. and Mrs. Frank A. Lee, Skidmore, started for Honolulu January 12.——Fire in the house of Dr. Horatio S. Jones, Kansas City, did damage to the extent of $1,800.

Sanitary Survey for St. Joseph.—Dr. Joseph H. White, U. S. P. H. S., surgeon in charge at New Orleans, has arrived in St. Joseph to work with the local Board of Health regarding the proposed sanitary survey, which is designed to increase the efficiency of the Health Department, and to obtain better enforcement of health measures.

State Board Election.—The Missouri State Board of Health, January 2, elected the following officers for the current year: president, Dr. Francis H. Matthews, Liberty; vice-president, Dr. Godfrey O. Cuppaidge, Moberly; secretary, Dr. James A. B. Adcock, Warrensburg (reelected).——J. L. Walker, an osteopath of Memphis, has been appointed a member of the State Board of Medical Examiners.

St. Louis

Negroes Want Hospital.—Negroes of St. Louis have started a campaign to raise $30,000 for the erection of a more commodious and modern Provident Hospital.

Doctors' Club Organized.—At the Doctors' Club, which was organized January 16, Dr. Eugene R. Waterhouse was elected president and Dr. Albert F. Stephens, secretary.

Personal.—Dr. Solomon A. Weintraub has sailed for the Mediterranean.——Dr. Walter R. Hewitt, medical director of the United Railways Company, sailed for Europe January 31.

Medical Library Dedicated.—The St. Louis Municipal Medical Library, located in the room originally designed for it at the City Hospital, was dedicated with appropriate ceremonies January 20. The library has already 3,500 volumes.

Quick Work on Small-Pox Hospital.—The addition to the quarantine hospital, south of Jefferson Barracks, for small-pox cases, was built in two days by the Board of Public Improvements. The structure is 22 by 50 feet, and contains two wards, each of which has accommodations for twelve patients.

NEW YORK

The Rural Death-Rate.—The State Grange, at its convention in Poughkeepsie on February 5, pointed out that while the death-rate of New York City is 13.7 per thousand population, towns under 8,000 population have a death-rate of 15.4, and passed resolutions urging the establishment of a division of rural hygiene in the New York State Department of Health.

Inwood Hospital Work.—The Hospital and House of Rest for Consumptives at Inwood-on-the-Hudson cared for 133 patients last year, which were received from various hospitals, clinics, settlements and charitable institutions. Of this number 43 were discharged and 21 died. The total number of days care given was 23,786, an increase of 3,496 over the preceding year. The average stay of each patient was 178.8 days as compared with 147.7 for the year 1912.

Personal.—Dr. Edwin A. Walcott has been appointed chairman, and Drs. Charles L. Barber, Elmer J. Bissell, Loron W. Howk, William B. Jones and Charles R. Sumner members of the Rochester City Public Health Committee.——Dr. Melville B. Dickinson has been appointed chief medical inspector of the public schools of Troy.——Dr. Henry L. Shaw of Albany, has been appointed director of the division of child hygiene of the Health Department of the State of New York, and Dr. Augustus B. Wadsworth of New York has been appointed director of the division of laboratories and research.

To Merge All Medical Societies.—Dr. W. Douglas Ward, president of the Rochester Pathologic Society, has appointed a committee consisting of Drs. William B. Jones, Charles R. Barber, Willis E. Bowen, Ralph R. Fitch, William W. Percy, J. H. Treton, Kathleen L. Buck and David B. Jewett to formulate plans for the union of all medical societies of Rochester and Monroe County and for the erection of a suitable club house. This project will include the Monroe County Medical Society, Rochester Pathologic Society, Rochester Academy of Medicine, Rochester Hospital Medical Society, Rochester Homeopathic Medical Society, Rochester Hahnemann Medical Society and Blackwell Medical Society, the latter an organization of women.

Work of Milk Commission.—The Milk Commission of the Medical Society of the County of New York has made its annual report which shows that its work has progressed successfully during the past year. The commission has certified to the production of 11,842 quarts of milk daily, produced on twenty-two farms, of which that from seventeen farms is bottled milk produced throughout the year. In addition 2,580 quarts daily from six other farms were inspected. Last year four new farms were added to the certified list. These new farms were in general superior in equipment to the older ones, and the results of the tuberculin tests were in some respects more encouraging. The commission urged on the members of the society an increased interest in certified milk, since it was only by the interest of the medical profession that such a movement could thrive.

Small-Pox at Niagara Falls.—Dr. Herman M. Biggs, New York City, State Commissioner of Health, on January 25 telegraphed to Dr. Edward Clark, Buffalo, in charge of the department campaign against small-pox in Niagara Falls, to have a meeting called by the mayor of the local authorities, manufacturers and business men, at which the following demands of the department, in regard to the epidemic, were to be made: Close all places of public assemblage, including churches, theaters, dance halls, moving-picture theaters and other places of entertainment; close the public schools, or exclude unvaccinated children from attendance; close all factories or exclude unvaccinated employees; close all hotels or require vaccination of employees; enforce a rigid quarantine against all houses containing small-pox cases and all exposed and unvaccinated persons; remove all cases to isolation hospital; enforce strictly the sanitary code of the city. The small-pox situation is constantly improving since the vigorous action of the State Board of Health and the local civil and medical authorities in enforcing vaccination and thorough quarantine. February 2 there were reported 110 cases still under quarantine with few new cases, and vaccination was still going on among schoolchildren and the employees of industrial establishments and business houses. The threatened proclamation by State Health Commissioner Biggs that it would be dangerous to visit Niagara Falls was not issued in view of the improved situation. The health authorities on the Canadian side, however, require that all persons coming from or going to Niagara Falls must have been successfully vaccinated within seven years.

New York City

Hospital Leases Dwellings.—The New York Hospital has extended its control over additional property in its vicinity by leasing two dwellings just opposite the hospital on West Sixteenth Street. Recently it was announced that a block had been purchased further up town as a site for a new building.

Typhus Fever at Quarantine.—A case of typhus fever was discovered on the steamship *Rochambeau* which arrived in New York on January 27, and another case has developed among the steerage passengers on the *Belvidere,* detained at Hoffman's Island for observation; this makes seven cases of typhus met with at this port since January 7.

Diphtheria on Warships.—A short time ago it was noted that diphtheria had appeared on the battleship *Arkansas* and that the officers and men were quarantined at the Brooklyn Navy Yard. Several new cases have been discovered on the *Arkansas* and one has appeared on the *North Dakota.* There are in all more than two thousand men under quarantine and close scrutiny.

Contagious Hospital for Queens.—The Board of Estimate passed a resolution on February 6 authorizing the Board of Health to go on with the work of constructing a hospital for contagious diseases on Haacke farm near Jamaica, L. I. A large number of the residents of Queens objected to this site for the hospital, but the committee appointed to investigate reported that there was no other site available.

Out Practice Alumnae Honor Fellow Worker.—A subscription dinner is to be given by the alumnae of the out practice of the New York Infirmary to Dr. Annie S. Daniel in recognition of her work in the out practice, February 19, at the Hotel McAlpin. The speakers are representatives of Dr. Daniel's varied fields of activity and it is hoped to gather together on this occasion the men and women who have been associated with her work.

Laymen to Aid Health Department.—Dr. Sigismund S. Goldwater, who assumed charge of the office of health commissioner February 2, proposes to have, in addition to the medical advisory board, a committee of laymen to act in conjunction with it, and to advise the department and the commissioner as to plans of action. He also announces his intention of tabulating the tuberculosis cases in the city, many instances of which are unrecognized.

Personal.—Prof. Emil Abderhalden of the University of Halle, Germany, has received a call to lecture at Columbia University. He will begin his lectures next autumn.——Dr. George E. Brewer has been appointed to the chair of surgery at the College of Physicians and Surgeons of Columbia University. This post carries with it the important position of head of the surgical division of the Presbyterian Hospital. ——Dr. Walter B. James has asked to be relieved from membership in the medical faculty of Columbia University. He will retain his professorship and continue to direct research students from time to time.

Physicians' Aid Association Meets.—The Physicians' Mutual Aid Association of New York held its forty-fifth annual meeting recently at the New York Academy of Medicine and elected the following officers: *president,* Dr. W. F. Mittendorf; *vice-presidents,* Drs. W. C. Phillips and J. W. Ingalls; *recording secretary,* Dr. A. Edward Davis; *corresponding secretary,* Dr. W. B. Jennings; *assistant secretary,* Dr. Edward S. Peck; *treasurer,* Dr. Daniel Lewis. The association has a membership of 367, and has paid out $39,000 for 39 deaths. The expenses for each member was $20 during the past year. The club has a reserve and beneficiary fund of $83,000.

Central Council of Public Health Created.—The third conference of the private health agencies of the city interested in some phase of public health work was held in the New York Academy of Medicine on February 4. A plan of organization for the Health Federation of the City of New York was adopted. About 150 private organizations are interested in this federation. The plan includes the establishment of an advisory body to be known as the Central Council of Public Health. The membership of this council is limited to fifteen persons and the following members were announced: Dr. John H. Huddleston, Bailey B. Burritt, Dr. Charles Loomis Dana, Homer Folks, Miss Pauline Goldmary of the Consumer's League, James Perkins, Dr. Edward L. Keyes, Jr., Dr. Philip Vaningen, Miss Lillian D. Wald, Prof. C. E. A. Winslow and E. H. Lewinski-Corwin.

OHIO

Personal.—Dr. Carl A. Hamann has been placed in charge of the surgical department, and Dr. C. B. Carter in charge of the medical department of the Cleveland City Hospital.——Dr. George L. King, Alliance, has been appointed a member of the consulting staff of the Ohio State Blind Commission.——Dr. Isabelle L. Watson, Ashtabula, was operated on in the Ashtabula General Hospital, January 29, and is reported to be doing well.

New Officers.—Stark County Medical Society, at Canton, January 20: president, Dr. Henry C. Eyman, Massillon; secretary-treasurer, Dr. Charles A. LaMont, Canton, (reelected).

Butler County Medical Society, at Hamilton, January 15: president, Dr. Louis H. Frechtling; secretary-treasurer, Dr. Wilmer E. Griffith, both of Hamilton.——Canton Medical Society, January 20: president, Dr. Lewis A. Buchmann; secretary-treasurer, Dr. Grover C. Goudy (reelected).——Salem Physicians' Club, January 29: president, Dr. John S. Gallagher; secretary, Dr. Ludwig F. Derfus.

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Cincinnati

Personal.—Prof. William B. Wherry, who has been confined to his home through serious illness, is now reported as convalescent.——Dr. Arch I. Carson received the appointment of clinical professor of surgery in the College of Medicine, University of Cincinnati.

Officers of Research Society.—The annual election of officers of the Cincinnati Research Society took place February 5. The following physicians were elected: president Dr Oscar Berghausen; vice-president, Dr. E. R. Remelin; secretary, Dr. J. L. Tuechter; executive committee, Dr. H. McE. Knower and Dr. Charles Goosman.

OKLAHOMA

State Board May Revoke Licenses.—The assistant attorney general has ruled that it is not necessary for the State Board of Medical Examiners to go into court for the purpose of revoking licenses for the practice of medicine in the state.

Personal.—Dr. Edward F. Hurlburt, Chandler, was seriously injured in a runaway accident recently.——Dr. J. W. Coleman has been appointed assistant city physician of Muskogee, to care for the indigent colored population of the city.——Dr. William M. Cott, Okmulgee, who was operated on for appendicitis in St. Louis recently, has recovered and returned home.——Dr. Parkey H. Anderson has been appointed Indian physician at Anadarko.——The University of Michigan has conferred on Dr. Edward H. Troy, McAlester, the degree of B.A. in acknowledgment of work done by him since leaving the university.

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PENNSYLVANIA

Anniversary Banquet.—At the twenty-ninth anniversary banquet of the Luzerne Medical Society, held at Wilkes-Barre, January 28, the sixty-ninth birthday anniversary of Dr. George W. Guthrie was also celebrated.

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Personal.—Dr. Samuel B. Crothers, Chester, has been appointed a member of the board of trustees of the Eastern Pennsylvania Institution for the Feeble-Minded and Epileptic, Spring City.——Dr. David Hollenbeck, Shamokin, is reported to be seriously ill with pneumonia.——Henry W. Pierson, for seven years chief of the division of biological products of the State Health Department and closely identified with the antitoxin division, has tendered his resignation to Commissioner Dixon.

Philadelphia

Personal.—Dr. John K. Mitchell was elected a director of the Poor Richard Inn Club on February 7.——Dr. Charles H. J. Barnett was appointed a district police surgeon on February 7, to take the place of Dr. Nathan Hornstine.——Drs. Jack Pearl and Joseph McIver qualified in the Civil Service Examination as assistant resident physicians in the Bureau of Charities.

Examination of Delinquents.—All children that may be brought before the Probation Department of the new Municipal Court will be put to a scientific test to ascertain their mental and physical conditions. The system has been carefully worked out by Dr. Walter S. Cornell, Chief Medical School Inspector, with the assistance of Judge James E. Gorman and the chief probation officer. The work at the House of Detention has shown that about 5 per cent. of the children brought there are actually feeble-minded and 9 per cent. are backward mentally as to be termed border-line cases. Under the new system the medical staff will have the assistance of the probation officers, the teachers of the House of Detention and of the Psychologic Laboratory of that institution in the collection of information regarding the intelligence of the children's parents, the language spoken at home, the general home conditions, previous schooling of the child, history of truancy and the grade attained in school. With this information, a combined mental and physical examination is made by the chief medical examiner by which the child's intelligence, emotional peculiarities and physical condition are determined and a diagnosis of mentality is made

TENNESSEE

A Poster Form of Health Report.—Gallatin, a small city of 2,400 inhabitants, seems to have a live health officer and local health department. The report of the vital and morbidity statistics and of the general health conditions for 1913 is gotten up in the form of a small poster with an appropriate cartoon. It has the striking headline: "Keeping Tab on the Grim Reaper," and presents in graphic and tabulated form the health status of the city and a comparative statement of health conditions for a number of years. The information is presented in a form that should be of great interest to all the people of Gallatin, and contains a plea by the health officer for the cooperation of all the inhabitants in making the health conditions of the place still better.

GENERAL

Induced Pneumothorax in Tuberculosis.—Dr. Martin F. Sloan, superintendent of the Eudowood Sanatorium, Towson, Md., has been engaged as expert to introduce the treatment of pulmonary tuberculosis by induced pneumothorax at the United States Public Health Service Sanatorium, Fort Stanton, N. Mex. Of the two hundred patients under treatment at the sanatorium, all adult males, thirty have been selected as suitable for treatment by this method.

Bequests and Donations.—The following bequests and donations have recently been announced:

Royal Victoria Hospital, Montreal, $500,000; hospitals of the British Isles, $20,000, by the will of Lord Strathcona and Mount Royal.

St. Francis Hospital, Poughkeepsie, N. Y., for building fund, $2,425.

Mount Sinai Hospital, New York City, one-fourth of the residuary estate of Constant Meyer, amounting to about $18,000.

National Temperance Hospital, Chicago, $1,000; Wesley Hospital, Chicago, $2,500, by the will of Sarah E. Lyons, Rochester, Ill.

Detroit Tuberculosis Sanatorium, $12,000, donation by Mrs. Horace E. Dodge.

Harvard University, the greater part of an estate of $500,000 for medical research and "for the promotion of good citizenship under the Republican government," in memory of the testator's father, by the will of Morill Wyman, Cambridge, Mass.

Public Health Administration of Maryland.—The United States Public Health Service has from time to time, as authorized by Congress, published the results of investigations, and analyses of laws and regulations in respect to the powers and duties of state and local health authorities and laws relating to the control of communicable diseases. In *Public Health Reports*, Jan. 30, 1914, Dr. Carroll Fox of the United States Public Health Service presents an exhaustive study of the laws relating to public health administration in Maryland. The report keeps in view the relations between state and national health laws and regulations, and is valuable not only as pointing out short-comings in the health regulations in this particular state, but in calling attention to matters of duplication between the laws of the state and national health laws. It also affords a basis for study of the health laws of other states by which similar shortcomings and duplications may be determined. The report occupies eighty pages of this number of the *Public Health Reports.*

Congress on Diseases of Occupation.—A committee has been organized for the purpose of inviting the attention of the medical profession and others interested in the prevention of occupational diseases to the Third International Congress on Diseases of Occupation to be held in Vienna in September, 1914. These congresses, begun in 1906, afford an excellent opportunity to scientists, clinicians and industrial experts to present the results of their research and observations before an international body specially interested in the subject. Among the topics which will be considered at the coming congress are: the physiology and pathology of fatigue; work in hot and damp air; occupational anthrax; pneumoconiosis: injuries caused by electricity; industrial poisons; injuries of hearing caused by industrial pursuits, etc. For membership fees, mail postal money order for $5 to the general secretary of the congress, Dr. Ludwig Teleky, No. 23, Türkenstrasse IX, Vienna, Austria. For further information, address Dr. Alice Hamilton, Secretary, Hull House, Chicago, or Dr. George M. Kober, Vice-Chairman, 1819 Q Street, N.-W., Washington, D. C.

FOREIGN

Deaths in the Profession Abroad.—The cable reports the death of Dr. Karl Voelckers, the well-known ophthalmologist, aged 77, at Kiel, Germany, where he served as professor of ophthalmology from 1866 until recently. He has published numerous works on his specialty, especially on the mechanism of accommodation.——G. Cesari, professor of materia medica at the University of Modena, Italy.

CANADA

Hospital Report.—At the annual meeting of the Verdun Protestant Hospital, Verdun, Quebec, a deficit of $2,526 was reported. The total receipts during 1913 were $159,938, while the expenditures were $162,465. The reason for the deficit is partly the high cost of living and the insufficient per capita allowance by the provincial government of $142. In his twenty-fourth annual report the medical superintendent, Dr. J. W. Thomas Burgess, said that during the year there had been 477 men and 433 women under treatment, a total of 910. There were 247 admissions and of the 151 discharged 74 had recovered, 45 improved and 32 unimproved. There were 92 deaths, leaving in residence at the end of the year 665 patients. There were only eight voluntary admissions. The hospital is for the Protestant insane of the province of Quebec.

Handsome Sanitarium Donation.—Mr. W. J. Gage, Toronto, has donated $100,000 to the National Sanitarium Association. His total gifts to this cause now amount to over a quarter million dollars. The amount is to be added to the King Edward Memorial Fund of $1,000,000 for consumptives, toward which the city of Toronto subscribed $200,000. The city's grant rebuilt the Weston Sanatorium which was destroyed by fire in 1910. Mr. Gage's latest contribution will be used to maintain needy patients in Muskoka. Mr. Gage is practically the founder of the sanatorium movement in Canada. There have been over 7,000 patients cared for by the National Sanitarium Association. At the present time there are about 470 patients in the Muskoka and Weston institutions, most of them being free patients. The plant and equipment are to-day valued at $500,000, and it costs $225,000 annually for maintenance and upkeep.

Dr. Minot Lectures at McGill.—Dr. Charles Sedgewick Minot, professor of anatomy and embryology at Harvard University, recently delivered a lecture to the medical students of McGill University, Montreal. The lecture took the form of a reply to the toast to his health at the thirty-second annual banquet of the faculty and students. Dr. Minot declared that medicine made the highest demands on the mind and character of perhaps any profession, and the fundamental thing that leads to success was what the speaker called a god-like apprehension—the power of understanding things as they really are. The toast to Alma Mater was responded to by President Peterson. Prof. George E. Armstrong replied to the toast to the faculty of medicine, while Prof. John G. Adami gave the toast to the graduating class, emphasizing the value of specializing and urged the students to take up some hobby to which they could turn as a relief from dealing with disease.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 23, 1914.

Personal

At its last session the Académie des Sciences elected Dr. Charles Richet, professor of physiology at the Faculté de médecine de Paris, a member of the section of medicine and surgery to replace the late Dr. Lucas-Championnière. It will be remembered that a Nobel prize was recently awarded Dr. Charles Richet (THE JOURNAL, Nov. 22, 1913, p. 1915).

Institutes of Child Hygiene

Eleven institutes of child hygiene have been opened in the various services of obstetrics and pediatrics in Paris. Instruction in child hygiene will be placed within the reach of all Parisian mothers. Each year, the head of each service in which there is an institute of child hygiene will make a report to the general administration of the public charities on the number of consultations, the number of children examined, the number of pupils following courses, the quantity of milk distributed, etc.

Boric Acid in Foodstuffs

The addition of boric acid to foodstuffs is forbidden by law. Two years ago, when fruit was scarce, large importations of dried and preserved fruits were made from Canada. French merchants declared that these fruits contained boric acid. Qualitative analysis indicated the presence of this antiseptic, and the entrance of Canadian fruit into France was accordingly forbidden. At the protest of Canada an investigation was made. M. Gabriel Bertrand, chief of service at the Pasteur Institute and professor at the Sorbonne, was commissioned to make a quantitative analysis capable of determining the presence of extremely small quantities of boric acid. He, together with M. Agulhon, has just presented to the Académie des Sciences a note on this subject. Since the constant presence of boron in almost all living cells has been unknown hitherto, it has been generally believed that the boric acid found in the ashes of animal or vegetable foodstuffs indicated its artificial introduction as an antiseptic. A mere qualitative analysis is no longer sufficient, for boron or boric acid is found everywhere. The method devised by Bertrand permits a sufficiently close analysis to avoid the confusion of the boric acid contained normally in the ashes of foodstuffs with that which may have been introduced as an antiseptic. In a kilogram of dried fruit, Bertrand and Agulhon found in apricot pulp about 112 mg., in strawberries 56 mg., in cherries 112 mg., in black raisins 228 mg., and in English pears 28 mg. In almost all vegetables, such as carrots, gherkins, Scottish beans, dried onions, turnips, are found quantities of boric acid. from 56 to 112 mg. per dry kilogram.

Antityphoid Vaccination in the Schools

The municipal council of Paris has just requested the administration to collect the number of typhoid cases in each quarter and to publish a table, showing the figures with those of the corresponding school population, to furnish a basis for studying the means of supplying serum to the physicians of the schools most affected.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 24, 1914.

Personal

The noted biologist, August Weismann, celebrated his eightieth birthday, January 17.

The Insurance Conflict

The conflict in Königsberg with the local insurance society has been settled by the intervention of the government. On the average $1.80 (7.20 marks) per capita and 25 cents (1 mark) for extra services has been granted to physicians as well as, what is a matter of chief importance, a free choice of physician to the full extent that has prevailed heretofore. The position taken by the medical faculty of the university contributed materially to induce the insurance society to make concessions. The insurance societies of the consulting staff of the Ohio State Blind Commission. ——Dr. Mabelle L. Watson, Ashtabula, was operated on in the Ashtabula General Hospital, January 29, and is reported to be doing well.

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Small-Pox in Erie County.—Under date of February 2 an epidemic of small-pox was reported from the town of North East, 18 miles east of Erie. The town has 3,000 inhabitants and ninety cases of small-pox had occurred. A representative of the State Board of Health was sent to take charge of the situation.

Personal.—Dr. Samuel R. Crothers, Chester, has been appointed a member of the board of trustees of the Eastern Pennsylvania Institution for the Feeble-Minded and Epileptic, Spring City.——Dr. David Hollenbeck, Shamokin, is reported to be seriously ill with pneumonia.——Henry W. Pierson, for seven years chief of the division of biological products of the State Health Department and closely identified with the antitoxin division, has tendered his resignation to Commissioner Dixon.

Philadelphia

Personal.—Dr. John K. Mitchell was elected a director of the Poor Richard Inn Club on February 7.——Dr. Charles H. J. Barnett was appointed a district police surgeon on February 7, to take the place of Dr. Nathan Hornstine.——Drs. Jack Pearl and Joseph McIver qualified in the Civil Service Examination as assistant resident physicians in the Bureau of Charities.

Examination of Delinquents.—All children that may be brought before the Probation Department of the new Municipal Court will be put to a scientific test to ascertain their mental and physical conditions. The system has been carefully worked out by Dr. Walter S. Cornell, Chief Medical School Inspector, with the assistance of Judge James E. Gorman and the chief probation officer. The work at the House of Detention has shown that about 5 per cent. of the children brought there are actually feeble-minded and 9 per cent. are backward mentally as to be termed border-line cases. Under the new system the medical staff will have the assistance of the probation officers, the teachers of the House of Detention and of the Psychologic Laboratory of that institution in the collection of information regarding the intelligence of the children's parents, the language spoken at home, the general home conditions, previous schooling of the child, history of truancy and the grade attained in school. With this information, a combined mental and physical examination is made by the chief medical examiner by which the child's intelligence, emotional peculiarities and physical condition are determined and a diagnosis of mentality is made.

TENNESSEE

A Poster Form of Health Report.—Gallatin, a small city of 2,400 inhabitants, seems to have a live health officer and local health department. The report of the vital and morbidity statistics and of the general health conditions for 1913 is gotten up in the form of a small poster with an appropriate cartoon. It has the striking headline: "Keeping Tab on the Grim Reaper," and presents in graphic and tabulated form the health status of the city and a comparative statement of health conditions for a number of years. The information is presented in a form that should be of great interest to all the people of Gallatin, and contains a plea by the health officer for the cooperation of all the inhabitants in making the health conditions of the place still better.

GENERAL

Induced Pneumothorax in Tuberculosis.—Dr. Martin F. Sloan, superintendent of the Eudowood Sanatorium, Towson, Md., has been engaged as expert to introduce the treatment of pulmonary tuberculosis by induced pneumothorax at the United States Public Health Service Sanatorium, Fort Stanton, N. Mex. Of the two hundred patients under treatment at the sanatorium, all adult males, thirty have been selected as suitable for treatment by this method.

Bequests and Donations.—The following bequests and donations have recently been announced:

Royal Victoria Hospital, Montreal, $500,000; hospitals of the British Isles, $90,000, by the will of Lord Strathcona and Mount Royal.

St. Francis Hospital, Poughkeepsie, N. Y., for building fund, $2,425.

Mount Sinai Hospital, New York City, one-fourth of the residuary estate of Constant Mey [illegible] it $18,000.

National Temperance [illegible] 00; Wesley Hospital, Chicago, $2,500, by the [illegible] as, Rochester, Ill.

Detroit Tuberculosis [illegible], donation by Mrs. Horace E. Dodge.

Harvard University, the greater part of an estate of $500,000 for medical research and "for the promotion of good citizenship under the Republican government," in memory of the testator's father, by the will of Morill Wyman, Cambridge, Mass.

Public Health Administration of Maryland.—The United States Public Health Service has from time to time, as authorized by Congress, published the results of investigations, and analyses of laws and regulations in respect to the powers and duties of state and local health authorities, and laws relating to the control of communicable diseases. In *Public Health Reports*, Jan. 30, 1914, Dr. Carroll Fox of the United States Public Health Service presents an exhaustive study of the laws relating to public health administration in Maryland. The report keeps in view the relations between state and national health laws and regulations, and is valuable not only as pointing out short-comings in the health regulations in this particular state, but in calling attention to matters of duplication between the laws of the state and national health laws. It also affords a basis for study of the health laws of other states by which similar shortcomings and duplications may be determined. The report occupies eighty pages of this number of the *Public Health Reports.*

Congress on Diseases of Occupation.—A committee has been organized for the purpose of inviting the attention of the medical profession and others interested in the prevention of occupational diseases to the Third International Congress on Diseases of Occupation to be held in Vienna in September, 1914. These congresses, begun in 1906, afford an excellent opportunity to scientists, clinicians and industrial experts to present the results of their research and observations before an international body specially interested in the subject. Among the topics which will be considered at the coming congress are: the physiology and pathology of fatigue; work in hot and damp air; occupational anthrax; pneumoconiosis; injuries caused by electricity; industrial poisons; injuries of hearing caused by industrial pursuits, etc. For membership fees, mail postal money order for $5 to the general secretary of the congress, Dr. Ludwig Teleky, No. 23, Türkenstrasse IX, Vienna, Austria. For further information, address Dr. Alice Hamilton, Secretary, Hull House, Chicago, or Dr. George M. Kober, Vice-Chairman, 1819 Q Street, N.-W., Washington, D. C.

FOREIGN

Deaths in the Profession Abroad.—The cable reports the death of Dr. Karl Voelckers, the well-known ophthalmologist, aged 77, at Kiel, Germany, where he served as professor of ophthalmology from 1866 until recently. He has published numerous works on his specialty, especially on the mechanism of accommodation.——G. Cesari, professor of materia medica at the University of Modena, Italy.

CANADA

Hospital Report.—At the annual meeting of the Verdun Protestant Hospital, Verdun, Quebec, a deficit of $2,526 was reported. The total receipts during 1913 were $159,938, while the expenditures were $162,465. The reason for the deficit is partly the high cost of living and the insufficient per capita allowance by the provincial government of $142. In his twenty-fourth annual report the medical superintendent, Dr. J. W. Thomas Burgess, said that during the year there had been 477 men and 433 women under treatment, a total of 910. There were 247 admissions and of the 151 discharged 74 had recovered, 45 improved and 32 unimproved. There were 92 deaths, leaving in residence at the end of the year 665 patients. There were only eight voluntary admissions. The hospital is for the Protestant insane of the province of Quebec.

Handsome Sanitarium Donation.—Mr. W. J. Gage, Toronto, has donated $100,000 to the National Sanitarium Association. His total gifts to this cause now amount to over a quarter million dollars. The amount is to be added to the King Edward Memorial Fund of $1,000,000 for consumptives, toward which the city of Toronto subscribed $200,000. The city's grant rebuilt the Weston Sanatorium which was destroyed by fire in 1910. Mr. Gage's latest contribution will be used to maintain needy patients in Muskoka. Mr. Gage is practically the founder of the sanatorium movement in Canada. There have been over 7,000 patients cared for by the National Sanitarium Association. At the present time there are about 470 patients in the Muskoka and Weston institutions, most of them being free patients. The plant and equipment are to-day valued at $500,000, and it costs $225,000 annually for maintenance and upkeep.

Dr. Minot Lectures at McGill.—Dr. Charles Sedgewick Minot, professor of anatomy and embryology at Harvard University, recently delivered a lecture to the medical students of McGill University, Montreal. The lecture took the form of a reply to the toast to his health at the thirty-second annual banquet of the faculty and students. Dr. Minot declared that medicine made the highest demands on the mind and character of perhaps any profession, and the fundamental thing that leads to success was what the speaker called a god-like apprehension—the power of understanding things as they really are. The toast to Alma Mater was responded to by President Peterson. Prof. George E. Armstrong replied to the toast to the faculty of medicine, while Prof. John G. Adami gave the toast to the graduating class, emphasizing the value of specializing and urged the students to take up some hobby to which they could turn as a relief from dealing with disease.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 23, 1914.

Personal

At its last session the Académie des Sciences elected Dr. Charles Richet, professor of physiology at the Faculté de médecine de Paris, a member of the section of medicine and surgery to replace the late Dr. Lucas-Championnière. It will be remembered that a Nobel prize was recently awarded Dr. Charles Richet (The Journal, Nov. 22, 1913, p. 1915).

Institutes of Child Hygiene

Eleven institutes of child hygiene have been opened in the various services of obstetrics and pediatrics in Paris. Instruction in child hygiene will be placed within the reach of all Parisian mothers. Each year, the head of each service in which there is an institute of child hygiene will make a report to the general administration of the public charities on the number of consultations, the number of children examined, the number of pupils following courses, the quantity of milk distributed, etc.

Boric Acid in Foodstuffs

The addition of boric acid to foodstuffs is forbidden by law. Two years ago, when fruit was scarce, large importations of dried and preserved fruits were made from Canada. French merchants declared that these fruits contained boric acid. Qualitative analysis indicated the presence of this antiseptic, and the entrance of Canadian fruit into France was accordingly forbidden. At the protest of Canada an investigation was made. M. Gabriel Bertrand, chief of service at the Pasteur Institute and professor at the Sorbonne, was commissioned to make a quantitative analysis capable of determining the presence of extremely small quantities of boric acid. He, together with M. Agulhon, has just presented to the Académie des Sciences a note on this subject. Since the constant presence of boron in almost all living cells has been unknown hitherto, it has been generally believed that the boric acid found in the ashes of animal or vegetable foodstuffs indicated its artificial introduction as an antiseptic. A mere qualitative analysis is no longer sufficient, for boron or boric acid is found everywhere. The method devised by Bertrand permits a sufficiently close analysis to avoid the confusion of the boric acid contained normally in the ashes of foodstuffs with that which may have been introduced as an antiseptic. In a kilogram of dried fruit, Bertrand and Agulhon found in apricot pulp about 112 mg., in strawberries 56 mg., in cherries 112 mg., in black raisins 228 mg., and in English pears 28 mg. In almost all vegetables, such as carrots, gherkins, Scottish beans, dried onions, turnips, are found quantities of boric acid, from 56 to 112 mg. per dry kilogram.

Antityphoid Vaccination in the Schools

The municipal council of Paris has just requested the administration to collect the number of typhoid cases in each quarter and to publish a table, showing the figures with those of the corresponding school population, to furnish a basis for studying the means of supplying serum to the physicians of the schools most affected.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 24, 1914.

Personal

The noted biologist, August Weismann, celebrated his eightieth birthday, January 17.

The Insurance Conflict

The conflict in Königsberg with the local insurance society has been settled by the intervention of the government. On the average $1.80 (7.20 marks) per capita and 25 cents (1 mark) for extra services has been granted to physicians as well as, what is a matter of chief importance, a free choice of physician to the full extent that has prevailed heretofore. The position taken by the medical faculty of the university contributed materially to induce the insurance society to make concessions. The insurance societies had requested that their members should be treated in the clinics, but the directors of the university clinics and policlinics refused to treat members of the Krankenkassen except in case of imminent danger.

The conflict still continues at the chief remaining foci of disturbance, Brunswick, Elbing and especially Breslau.

Winter Mountain-Climbing

The continually growing disposition to visit the mountains even in winter for the treatment of nervous diseases particularly, has been enhanced by an investigation, a report of which is briefly given by the renowned Berlin physiologist, Professor Zuntz, in the *Zeitschrift für Balneologie.* Zuntz took occasion in the course of the ascent of the highest mountain in the Harz range, the Brocken, by a large party in winter, to carry out some investigations on the effects of mountain-climbing. The thirty-two participants varied in age from 32 to 65 years. A heavy snow-storm considerably increased the exertions connected with the ascent. Three days afterward Zuntz sent to all of these men (who were themselves physicians and hence accustomed to accurate observations) question-blanks in which to record their own observations during and after the expedition. For the interpretation of the reports three age classes were distinguished, namely, those in the fourth, fifth and sixth decades of life. The youngest group was represented by eight men, who for the most part had had insufficient sleep during the previous days and had indulged more freely in alcohol than usual. In spite of this, six of them regarded the ascent as easy and even the two others who found the exertion severe observed no bad aftereffects, although in one, shortly before reaching the top, a fainting-spell occurred. The sixteen men in the fifties made still more favorable reports, probably because they had taken better care of themselves in the previous days. Only two considered the ascent difficult, while the majority noted expressly an increase of vigor after the march. Five of the participants were in the sixties, and those accomplished the ascent best who had been trained for it by gymnastic and Alpine exercise. Zuntz himself was the oldest of the mountain-climbers, being 65, and he suffered a light febrile attack after the undertaking because he had to take a rapid journey to Berlin in his wet clothing. He concludes that these experiences afford striking evidence in favor of the value of the mountain climate in winter. The greatest demands were made on the heat-regulating apparatus of the body, and yet the result in the majority of the participants, even though they were not accustomed to such exertion, was entirely advantageous and showed itself in sound sleep and a feeling of refreshment.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Jan. 10, 1914.

Conflict between Practitioners and Clubs Settled

As mentioned in my previous letter (The Journal, Dec. 27, 1913) the conflict between the organized profession and the Krankenkassen has been in its last stage for several weeks, when it was abruptly settled satisfactorily to the doctors. By intervention of the government, peace was made on the following terms: The clubs—in this country these clubs are compulsory institutions of certain groups of persons earning wages, or otherwise occupied and employed by a person or firm, not by a corporation—have to agree to reappoint all those doctors who have been dismissed or have given notice of resignation within the last year, if these persons wish to accept the post again. Furthermore, two hundred new appointments have to be made within two years. (All these stipulations affect the whole of Lower Austria, with about two and one-half million of inhabitants, and about sixteen hundred doctors.) The payment is calculated per capita in clubs with more than one thousand members, or for a fixed sum, in clubs with fewer members. Each contract between a Krankenkasse and a doctor must be controlled by the medical council of the district; extra medical work (operations, midwifery) to be paid for extra; four weeks' paid leave every year, but the doctor must find a substitute at his own expense during this time. Great difficulties arose in settling the question of dealing with those "blacklegs" who had accepted medical appointments boycotted by the organization during the conflict. The profession demanded the dismissal of these men who had behaved so unethically. But the clubs did not give in. The terms of peace provide that these men may remain, but the posts to which they were appointed will be returned to their previous holders; and the clubs have now to pay not only the regular fees for the appointed old doctors, but also the very heavy "strike fees" of the "blacklegs." Naturally, the clubs will attempt to get rid of these latter men at the very earliest opportunity, and thus the object of the profession will be attained, although a little later, and the punishment for "blacklegs," too. This first significant victory has shown in this country that our profession has ceased to be the object of prey, as it was for a number of years; and the consternation of other unions of clubs is evident by the fact that in Vienna and elsewhere a "voluntary" rectification, i. e., raise of the scale of fees has been offered to the doctors by various Krankenkassen. Meanwhile, the idea of "voluntary choice of doctors for insured members" (*freie Aerztewahl*) is making good headway among our population, and already the members of the pharmaceutical profession have taken it up too.

A New Physiologic Institute

By the generous bequest of 1,500,000 kronen ($300,000) under the will of the late Professor Leegen, a former member of the Vienna medical faculty, the Academy of Sciences of Vienna has obtained means to erect a special institute for physiology. The idea is to devote the institute to scientific research solely; no beginners will be admitted, and the men working there will be appointed as whole-time officers, who may *not* devote their time to any other office (as teachers in universities or hospitals). Furthermore, the academy has obtained also the Vienna Biologic Institute, together with a handsome sum to keep it going, from its founders and present owners. From this institute emanated the sensational biologic discoveries by Drs. Kammerer and Pribram and now, in connection with the above-mentioned "Leegen institute," experimental physiology on a large scale, for purely scientific purposes will be possible in this city, apart from the research going on in the university institute devoted chiefly to the interests of students and for teaching.

The Thirtieth Anniversary of the Death of Gregor Mendel

A few days ago, the Mendelian Society celebrated the thirtieth anniversary of Mendel's death by opening up a new institute devoted to the research of the Mendelian laws of heredity. A modest statue of the scientist was unveiled some time ago in Brünn, where he had spent the latter part of his life and conducted his researches as abbé at the monastery.

Reform in the Medical Service of the Army

The recent discussion in the Austrian Parliament of the budget of the ministry of war proves that our authorities pay more attention now to the requirements of the army medical department. At present we have over 400 fully trained surgeons with at least one year's service in surgical clinics; and no longer than ten years ago, this was suggested as desirable. Many of them have also had several terms in clinics for ear, eye, nose, throat and skin departments. Promotion has been so arranged that after fifteen to twenty years of service, the medical officer of the army will attain the rank of staff-surgeon. At the same time a number of scholarships for different university and hospital clinics have been added to those already in existence, and have been substantially financed. It is the endeavor of the leading authorities to spend 3 per cent. of the grand total of the expenditure on the army for medical purposes, as against 2 per cent. hitherto. The number of male attendants in the sick wards will be augmented, so that sixteen to twenty beds will have the services of one man, while the outfit of the laboratories and the therapeutic departments will be brought up to date, including Roentgen-ray apparatus, filters, sterilization plants, ambulance cars, and last but not least, the number of army doctors will be increased and their position made equal to that of the officers of the rank and file.

Decrease in the Number of Foreign Doctors in Vienna

During the last few months, the number of foreign doctors who used to come here for purposes of study, has decreased very markedly. The drop has affected chiefly the British and Americans, who have left for the holidays to see their families, while newcomers have not arrived, as was formerly the custom. On the other hand, there is an increase in arrivals from Russia and the northern countries (Sweden, Norway, Denmark). Nevertheless, the opportunities for teaching and learning have increased within the last year or two by the finishing of the new clinics and the erection of two new special hospitals. For the month of March, at any rate, a large number of doctors have booked beforehand in several private ambulance departments, so that we look forward to a very busy spring.

Marriages

Frank Joseph Wochos, M.D., Kewaunee, Wis., to Miss Nunie Kustermann of Green Bay, Wis., at Chicago, February 4.

Merrill Kirk Lindsay, M.D., Topeka, Kan., to Mrs. William Drecksel of Leavenworth, Kan., at Topeka, January 25.

Frederick A. Stevens, M.D., Lake Elmo, Minn., to Miss Gertrude Londigan of Stillwater, Minn., January 24.

Thomas A. Woodruff, M.D., to Mrs. Carrie M. Ogden, both of Chicago, at New London, Conn., February 7.

John F. O'Brien, M.D., Taunton, Mass., to Miss Rose Teresa Dillon of Fall River, Mass., January 7.

Peter Aloyes Eck, M.D., to Miss Lillian D. Birkle, both of St. Louis, at Clayton, Mo., January 19.

George Frederick Dick, M.D., Chicago, to Gladys Rowena Henry, M.D., of Evanston, January 27.

Charles Osgood, M.D., New York City, to Miss Loretto Coleman of Portland, Me., July, 1913.

Claude Melvin Campbell, M.D., to Miss Rose F. Beihoffer, both of Starbuck, Minn., January 3.

Melvin Josiah McKay, M.D., to Miss Florine Losee, both of Lake City, Iowa, January 21.

John F. Christiansen, M.D., Manville, Wyo., to Miss Louise Cook of Illinois, recently.

Frank Edgar Simmons, M.D. to Miss Helen Sloan, both of Canajoharie, N. Y., recently.

Deaths

William Green Ewing, M.D. Vanderbilt University, Nashville, Tenn., 1877; for several years chairman of the Board of Health of Nashville; formerly professor of materia medica and dean of the medical department of the University of Nashville and Vanderbilt University, and president of the faculty of the Medical Department of the University of Tennessee; died at his home in Nashville, January 14, from heart disease, aged 65.

John Avery, M.D. Cleveland University of Medicine and Surgery, 1850; assistant surgeon of the Twenty-First Michigan Volunteer Infantry and brigade surgeon during the Civil War, and since its close a practitioner of Greenville, Mich.; a member of the Fifty-Third and Fifty-Fourth Congresses; for twelve years a member of the State Board of Health; died at his home, January 21, from cerebral hemorrhage, aged 89.

William Howard Ulsh, M.D. University of Pennsylvania, Philadelphia, 1893; assistant surgeon U. S. Navy (retired), with previous service in the line and in the Spanish-American War; aged 42; retired in 1902 for incapacity resulting from an incident of service, and since his retirement a resident of Selinsgrove, Pa.; was instantly killed, January 21, near Kramer, by being crushed under his overturned motor car.

Lewis Y. Grubbs, M.D. Medical College of Ohio, Cincinnati, 1871; a Fellow of the American Medical Association and a pioneer practitioner of Kansas; a veteran of the Civil War; one of the organizers and president of the medical staff of the Jane C. Stormont Hospital, Topeka; died at his home in that city, January 25, from cerebral hemorrhage, aged 72.

Roger De Montluzin, M.D. Tulane University, New Orleans, 1886; surgeon-general of Mississippi on the staff of Governor Foster; vice-president of the Merchants' Bank of Bay St. Louis, and formerly president of the local board of health; for many years disabled by reason of paralysis; died at his home in Bay St. Louis, January 16, aged 51.

Joseph Silas Baer, M.D. Jefferson Medical College, 1888; a Fellow of the American Medical Association; until 1912 a resident of Camden, N. J., gynecologist to Cooper Hospital and once president of the Camden County Medical Society; died at his home in South Pasadena, Cal., January 19, aged 59.

W. A. H. Campbell, M.D. Louisville (Ky.) Medical College, 1888; a member of the Kentucky State Medical Association; of Pikeville; died January 2, from injuries received in falling from his horse over a steep embankment.

John Graham Paschall, M.D. Baylor University, Dallas, Tex., 1906; a member of the State Medical Association of Texas; of Dallas; died in a hospital in San Antonio, January 19, after a surgical operation, aged 33.

James H. P. Baker, M.D., Rush Medical College, 1868; a member and once vice-president of the Missouri State Medical Association; local surgeon at Salisbury for the Wabash System, and formerly president of the Wabash Railway Surgeons' Association; died at his home in Salisbury, Dec. 20, 1913, aged 76.

David Henry Patton, M.D. Northwestern University Medical School, Chicago, 1867; a member of the Oklahoma State Medical Association; for several years a resident of Oklahoma City and Woodward; died at the home of his daughter in Otterbein, Ind., January 17, from heart disease, aged 76.

William L. Smith, M.D. Kentucky School of Medicine, Louisville, 1893; a member of the Missouri State Medical Association; for several terms coroner of Christian County; a practitioner of Sparta until 1908; died at his home in Springfield, January 20, from pneumonia, aged 47.

Pliny Henry Perkins, M.D. Rush Medical College, 1897; a Fellow of the American Medical Association; local surgeon of the Colorado Midland Railway, at Colorado Springs; attending surgeon to St. Francis' Hospital; died in that institution, January 16, from pneumonia, aged 40.

Charles M. Lyon (license, Illinois, 1877); a member of the Illinois State Medical Society; a veteran of the Civil War; for three terms a member of the State Legislature; owner and editor of the *Hamilton County Leader;* died at his home in McLeansboro, January 25, aged 70.

Thomas Richard Garlington, M.D. Jefferson Medical College, 1890; a member of the Medical Association of Georgia; medical director of the State Mutual Life Insurance Company; a resident of Rome; died at the home of his father-in-law near Atlanta, January 21, aged 54.

Augustus Esenwein, M.D. Philadelphia College of Medicine, about 1856; assistant paymaster in the Navy during the Civil War; for many years a practitioner of Reading; died at the home of his son in Philadelphia, January 10, from senile debility, aged 79.

Frank Joseph Labie, M. D. Rush Medical College, 1894; a member of the Illinois State Medical Society, and for twenty years resident surgeon at the St. Mary of Nazareth Hospital, Chicago; died in that institution, February 8, from pneumonia, aged 48.

William Webb, M.D. Jefferson Medical College, 1849; a member of the Missouri State Medical Association and a surgeon in the Confederate service throughout the Civil War; died at his home in St. Louis, January 21, from senile debility, aged 80.

George Oliver Barnes, M.D., Miami Medical College, Cincinnati, 1876; a member of the Indiana State Medical Association, and for many years a member of the Jackson County Board of Health; died at his home in Seymour, January 16, aged 75.

Charles E. Robson, M.D. Kentucky School of Medicine, Louisville, 1903; aged 36; a Fellow of the American Medical Association and health officer of Tenino, Wash., was shot and killed January 13, in Tenino by the husband of a patient.

Wesley Park, M.D. Northwestern University Medical School, Chicago, 1867; Jefferson Medical College, 1873; formerly president of the Park Bank at Fieldon, Ill.; died at his home in Grafton, Ill., January 18, aged 80.

Godfrey R. Bourke, L.R.C.S., Ireland, 1869; a practitioner of New York City, and a member of the Medical Society of the State of New York; died at his summer home in Sayville, L. I., January 23, from pneumonia.

John Augustus Stratton, M.D. University of Michigan, Ann Arbor, 1882; manager of the Stratton Sanitarium, Newman, Cal.; died at his home, January 15, from disease of the liver, aged 56.

William F. Osborn, M.D. Rush Medical College, 1860; for one term a member of the Kansas Legislature from Douglas County; died at his home in Baldwin, January 21, aged 83.

George W. Davis, M.D. Howard University, Washington, D. C., 1907; anesthetist to the Freedmen's Hospital, Washington; died at his home in that city, January 14, aged 30.

Matthew Winfield Smith, M.D. Bellevue Hospital Medical College, 1873; died at his home in Brooklyn, N. Y., January 9, aged 60.

John Albion Soule (license, Massachusetts, years of practice, 1894) died at his home in Hyde Park, Dec. 10, 1913, aged 72.

William J. Hodges, M.D. Atlanta (Ga.) Medical College, 1871; died at his home in Atlanta, January 7, aged 65.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

DR. BURTON TAKES THE JOURNAL TO TASK

To the Editor:—I read with much interest the article in your excellent journal published December 13, on the action of vaccines and serums, and I wish to ask in good faith a question. The article seems to be directed toward such firms as Parke, Davis and Co. and the Sherman Vaccine Laboratory of this city and it aims to discredit their work and discourage the use of mixed vaccines and Phylacogens. In the same number of your journal you are carrying extensive advertisements from both of these companies and we, as physicians, take this as a criterion that you sanction their use.

We look to The Journal to guide us through ethical channels of practice, and we believe hat if an advertisement is good enough to be printed in The Journal, the products thus advertised are good enough for us to use.

I am voicing the sentiments of a number of physicians I have spoken to about this, and I have no connection whatever with either of the above named firms, although they are both located in Detroit. My question is, then, if you discredit the use of their preparations, why do you advertise them in your own paper? C. H. Burton, M.D., Detroit, Mich.

The article referred to by Dr. Burton appearing in The Journal, Dec. 13, 1913, was a paper on "The Scientific Basis for Vaccine Therapy," by Richard M. Pearce, M.D., of Philadelphia. The Journal does not hold itself sponsor for the views expressed by its contributors, although in the present instance Dr. Pearce's paper reflects the attitude of The Journal on the subject with which it deals.

Advertisements of proprietary remedies are accepted by The Journal only after the products have been investigated by the Council on Pharmacy and Chemistry and accepted for inclusion in New and Nonofficial Remedies. The Phylacogens have never been accepted and have never been advertised in The Journal, although The Journal has at various times criticized these products. Certain of the mixed vaccines were accepted for New and Nonofficial Remedies, and such products have been advertised in The Journal. Last year, after consulting various authorities, the Council decided to apply Rule 10 (which bars unscientific, shotgun mixtures) to vaccine preparations. Under the Council's rules, it was obliged to retain for a period those mixed vaccines which had already been accepted. It decided, however, to accept no further mixtures of this kind. New and Nonofficial Remedies, 1913, explains the Council's actions in this particular thus:

> "Of recent years prophylaxis and therapy by bacterial vaccines have been widely employed. While the subject was still in the experimental stage, mixtures of vaccine, so-called 'mixed' vaccines, were admitted to N. N. R. by the Council. With increasing experience, however, it has been found inadvisable to continue this form of recognition. Those at present included will be dropped at the expiration of three years from the time of their admission and none will be admitted or retained unless justification for their inclusion can be found."

We are glad to learn that Dr. Burton has such a high opinion of The Journal. He will doubtless find much interest in the issues of May 18, 1912, page 1517, and Oct. 12, 1912, page 1391. There, our readers will remember, were discussed Dr. Burton's exploits, first as an associate of the notorious "cancer cure" fakers, "Drs. Mixer," later in exploiting a "cure" for locomotor ataxia. A physician who had read The Journal's exposé called Burton's attention to it. Burton replied that he had intended suing The Journal for slander, "but on looking them up I found that they are not worth anything, so a judgment would do me no good."[1] In view of the foregoing, it gives us pleasure to learn that Dr. Burton is constrained to "look to The Journal to guide us through ethical channels of practice"!

PYO-ATOXIN

"*To the Editor:*—I am sending you a sample of a proprietary preparation that for the past two or three years has been largely retailed in the South and Southwest as a new combination that liberates larger amounts of formaldehyd, etc., in the genito-urinary tract than any known agent, that it is a methylene-formate, entirely new, etc.

"I asked the representative why he had not submitted a specimen to the Council, and his reply was that like Wyeth and others they did not get a fair report, or something to this effect. My reasons for trying to find the truth for their claims is that quite a number of general practitioners have asked me regarding this Pyo-Atoxin.

"W. P. Dey, M.D., Jacksonville, Fla."

Dr. Dey sent with the foregoing letter a box of Pyo-Atoxin which bore this label:

Pyo-Atoxin
Reg. in U S. Pat. Office
(Capsules)
(Pheno-Methylene-Formate)
"Hurley"
An Antitoxic Agent Indicated in
Gonorrhoea, Cystitis, Pyelitis and
Bacteriuric Conditions.
DOSE: One capsule four to six times daily,
Followed by large glass of water.
Guaranteed by
H. O. Hurley,
Manufacturing Pharmacist,
Louisville, Ky.
Under the Food and Drugs Act, June 30, 1906
Serial No. 1710.

The pseudoscientific synonym "pheno-methylene-formate" carries the idea that Pyo-Atoxin is a definite chemical substance. It is unnecessary to say that the term "pheno-methylene-formate" is a meaningless one and its use reminds one of those preparations exploited seven or eight years ago before the Council began to expose these mixtures masquerading as definite chemical compounds.

The chemical laboratory was asked to investigate this preparation and the following is a report of the chemists:

"The box contained thirty gelatin capsules coated with some black substance giving them the appearance of some of the popular gonorrhea nostrums. When the capsules were opened they were found to contain a powder—about 0.35 gm. or 5 grains per capsule—composed of large white or colorless crystals mixed with a smaller amount of a fine dark powder. The crystals when separated out and dissolved yielded the characteristic tests for hexamethylenamin. A solution of the entire capsule content was deep blue and responded to the U. S. P. tests for methylene blue.

"As a result of these and other tests it was concluded that Pyo-Atoxin consisted essentially of two pharmacopeial drugs—hexamethylenamin and methylene blue. A quantitative determination of the constituents was considered unnecessary. From its general appearance and properties, however, the hexamethylenamin probably constitutes approximately from 60 to 80 per cent. of the preparation."

It thus appears that the capsules contain a mixture consisting essentially of two well-known official substances, the value and particularly the limitations of which should be known by physicians by this time. This nostrum is simply another example of how physicians are being humbugged.

CLEAN ADVERTISING

It is individual effort that counts for most in every movement for better things—socially, economically or politically. Realizing this, The Journal repeatedly urges physicians who write regarding various fraudulent advertisements to enter their individual, personal protest against the continuation of such advertisements.

Within the past few months The Journal has had brought to its attention a good example of what may be accomplished by personal effort in cleaning up the advertising pages of a fraternal publication. The *Royal Neighbor*, official organ of a fraternal organization, until comparatively recently, carried numerous fraudulent medical advertisements. Fake liquor cures, rheumatism cures, tapeworm expellers, *tobacco-*

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[1] Burton's activities will be found described in "Nostrums and Quackery," second edition, page 689.

habit cures, asthma and hay-fever cures, epilepsy cures, etc., disgraced its advertising pages. These called forth protests from Dr. E. A. Hall, Henry, Ill., who addressed letters to the official physicians of the fraternal order that the *Royal Neighbor* represents, objecting to such advertisements. These letters in turn reached the advertising manager, and it was not long before the board of managers took the matter up for consideration and decided to eliminate this class of advertising from their official organ. By December, 1913, the *Royal Neighbor* came to its readers clean. There is no doubt that the same results can be duplicated in similar cases. Whether they are will depend on the amount of active work done by individuals interested in the question of clean advertising.

PIORKOWSKI LABORATORIES NOT LICENSED

Through the Jan. 30, 1914, number of *Public Health Reports*, the United States Public Health Service announces that statements which seem to emanate from the so-called Piorkowski laboratories in various parts of the country, to the effect that these laboratories have been licensed by the Public Health Service, are incorrect. The article states that after inspection of the Piorkowski Laboratories in Berlin, Germany, by a representative of the United States Treasury Department, that department has refused a license for the importation and sale of their products in interstate traffic.

Correspondence

Tuberculosis is Infectious!

To the Editor:—I desire publicly to correct a serious misrepresentation of my views on infection in tuberculosis that has recently been given wide circulation by a Christian Science journal.

By a *partial* quotation of some conclusions that had summed up the gist of a lecture delivered in Baltimore last May, the above-mentioned article places me in the position of declaring tuberculosis *not* infectious! Nowhere in my conclusions is such a statement made. On the contrary, it was distinctly stated that "childhood is the time of infection" as contrasted with the higher resistance of adults, whose danger of infection was explained as very slight in comparison. It hardly seems necessary to deny such palpable abuse of the truth in this, the twentieth century.

Were it not for the wide-spread use of this article (which was based on an editorial in The Journal of January 3 in which you kindly and fairly commented on the lecture) as a protest against hospital care of the tuberculous, I would bear the unpleasant notoriety in silence.

Not only is tuberculosis infectious, but I firmly believe that the isolation and humane care of the advanced tuberculous patients in hospitals, sanatoriums or homes is the most important and only sure way of preventing infection.

Edward R. Baldwin, M.D., Saranac Lake, N. Y.

Stethophone, Not Stethoscope

To the Editor:—Nonchalantly to say that one is wrong is one thing, but to be correct in saying so is fortunately another.

In The Journal, Dec. 20, 1913, p. 2260, I offered the word "stethophone" as being a better word than "stethoscope." I gave my reasons for the preference and I thought that I had perused my dictionaries sufficiently to be correct in the matter; but in The Journal, Jan. 3, 1914, p. 57, Dr. A. Rose took exceptions to the word, saying that my dictionary was wrong. He also criticized my use of such hybrid terms as "auriscope" and "dictaphone." As to this, I should like to say that I used these terms to make my point clear: that instruments by the use of which we hear should end in the suffix "phone," while instruments by the use of which we see should end in the suffix "scope." It is not my purpose, however, to correct all the wrongs in the medical dictionary. Like Maeterlinck's unborn child, I should find myself with a big job on hand.

It is only too true that our onomatology has not as yet been sufficiently refined.

As to the propriety of the word "stethophone," the following letter is self-explanatory. I have referred it to the Nelsons, who speak authoritatively on such matters.

LETTER FROM NELSON & SONS

Dear Sir:—In reply to your inquiry as to the words "stethoscope" and "stethophone," we think that your criticism is exceedingly good, and that "stethophone," by both analogy and consistency, is by far the better word to denote the instrument used for auscultation.

The following definitions are given in the Century Dictionary:

Stethoscope [Greek, *στῆθος*, the breast, + *σκοπεῖν*, view]. An instrument used in auscultation to convey the sounds from the chest or other part of the patient to the ear of the observer.

Stethoscope (verb). To examine by means of a stethoscope. *Lancet*, 1890, ii, 1267.—Century Dictionary, 1913 edition.

Stethendoscope [Greek, *στῆθος*, the breast, + *ἔνδον* within, + *σκοπεῖν*, view]. A modified form of fluoroscope employed in examination of the chest by means of x-rays.—Supplement to Century Dictionary.

The last-named word, of recent origin, indicating as it does an instrument strictly for ocular use, seems appropriately formed, and in striking contrast to the word "stethoscope."

Under the Greek verb *σκοπέω* we find the following definitions in Liddell and Scott's Greek-English Lexicon: (1) *to look at* or *after* a thing; *to behold, contemplate; look out, watch;* (2) metaph. *to look to, consider, examine, to look to one's* own affairs; (3) *to look out for;* (4) *to inquire, learn;* also, certain forms carry the idea of *deliberate consideration, universal contemplation.*

The primary meaning of the word, however, is evidently that of inspection, view or examination by means of the *eyes*, no suggestion of sound entering into any of its forms. For instance, there are the words *σκοπή*, *σκοπιά*, a *lookout-place*, a *watch-tower*, a *mountain-peak; σκοπός, one that watches*, a *lookout-man*, a *watcher, watchman*, "stationed in some high place (*σκοπιά*) to overlook a country," etc., all denoting the use of the faculty of vision. Hence, we would say that, although, as you say, general usage has permitted the employment of the word "stethoscope" for the instrument used in auscultation, the strictly correct name of such an instrument would be the "stethophone."

In the Standard Dictionary (edition of 1913) is found the word "stethophonometer," thus defined: "a stethoscope with an adjustable slit for measuring the intensity of sounds heard on auscultation." Why "stetho*scope*" and "stetho*phonometer*"? Would it not be more consistent and more euphonious to use a *stethophone* in connection with a *stethophonometer?*

Thomas Nelson & Sons, New York.

So far as I am concerned, this is a closed matter. Stethophone is the proper name for the instrument. Those of smug conventionality may use the time-honored term if they wish.

Joseph H. Barach, M.D., Pittsburgh, Pa.

Blood Transfusion in 1492

To the Editor:—Though a Pepys enthusiast, in my perusal of the "Diary" I had not seen the account of the transfusion of blood cited by Dr. Campbell (The Journal, Jan. 10, 1914, p. 147).

The transfusion of blood, not only experimentally from animal to animal but also therapeutically from man to man, had been attempted long before 1666.

In those books which I have immediately available, to Jean Baptiste Denys of Montpellier, physician to Louis XIV, is usually attributed the honor of having performed the first transfusion of blood in man. He injected, in June, 1667, the blood of a calf or lamb into the veins of a young man dying from repeated venesection. The patient survived and apparently recovered his health. Violent controversies arose regarding the operation, and it was decreed that "for the future no transfusion should be made on the human body but by the approbation of the physicians of *the Parisian Faculty.*"

This official disapprobation and the heavy mortality incident to the practice led to its discontinuance.

One hundred and seventy-five years earlier, in April, 1492, the first transfusion of which we have accurate record occurred in an attempt to prolong the life of Pope Innocent VIII.

The following quotation from Villari's "Life of Savonarola" is self-explanatory:

"The vital powers of Innocent VIII rapidly gave way; he had for some time fallen into a kind of somnolency, which was sometimes so profound that the whole court believed him to be dead. All means to awaken the exhausted vitality had been resorted to in vain, when a Jew doctor proposed to do so by the transfusion, by a new instrument, of the blood of a young person—an experiment which had hitherto only been made on animals.

"Accordingly the blood of the decrepit old pontiff was passed into the veins of a youth, whose blood was transferred into those of the old man. The experiment was tried three times, and at the cost of the lives of three boys, probably from air getting into their veins, but without any effect to save that of the pope."

Previous to this, vague references to such an operation had been made from time to time at least as far back as the Augustan era, both in medical and in lay literature, but I can find no record of any earlier account which approximates the preceding in clarity.

Perhaps some other readers of THE JOURNAL may enlighten me. J. L. JOUGHIN, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

"THE ANATOMIST" OF REMBRANDT

To the Editor:—In my latest copy of THE JOUNAL, I observe under Queries and Minor Notes—to me an always interesting department—an article on Rembrandt's "Lesson in Anatomy." I am one of the many hundreds or thousands of medical men whose sanctum is adorned with a copy of this famous picture, and consequently your account of the origin and vicissitudes of the original is very interesting. There are two circumstances connected with this picture, neither of them historical, to which I should like to refer.

The first is the fact that although the "Lesson in Anatomy" is one of the famous pictures of the world and a favorite with doctors, I have never heard any patient admire it. On the contrary, the only expression of opinion I have heard from the self-appointed connoisseurs who have criticized my copy has been based on abhorrence and disgust of the subject, together with wonder and surprise at my keeping a picture of a horrible "surgical operation" in my office.

The other fact is this: Is not the right arm of the cadaver in the picture, greatly, and in view of the reputation of the artist, egregiously foreshortened? Would a schoolboy drawing a picture of a man with his arm *close to his side make the tips of the fingers* stop above the hip-joint, unless he intended to represent a deformed upper extremity?

In Rembrandt's picture it will be noticed that the tips of the fingers of the right hand reach only to the hip-joint instead of to the middle of the thigh as they should, while on the left side, the arm of which is being dissected by Dr. Tulp for the edification of his Dutch colleagues, the extremity is represented as of normal length. W. M. BARTON, M.D., Washington, D. C.

ACTION OF PIGMENT IN INDELIBLE PENCILS

To the Editor:—In connection with this subject, which was referred to in THE JOURNAL, Jan. 24, 1914, p. 315, I wish to call attention to some work done in Basel, under Carl Mellinger by Dr. Alfred Vogt, in continuation of work done two years previously by Dr. A. Gräflin.

Vogt comes to the following conclusions:

1. The artificial anilin dyes act according to their chemical composition differently on the ocular conjunctiva. From 5 to 10 mg. of the acid, neutral, or "Beizen" colors, as well as those insoluble in water, produce no irritation, or hardly any, on the conjunctival sac of the rabbit. All basic dyes in the same quantity produce serious inflammations, which may progress to panophthalmitis. [Methyl violet, the substance commonly used in indelible pencils, belongs to the basic dyes.—ED.]

2. The toxicity of the basic colors varies in degree. It increases with the basicity, and depends also on other chemical properties, but seems to be independent of the mineral acid of the color-base. The danger increases also with the solubility in the ocular fluid.

3. Experiments on rabbits demonstrate that washing out of the conjunctival sac with a tannin solution of from 5 to 10 per cent. prevents the dangerous effects occurring, while those cases in which the conjunctival sac has been irrigated with water, solutions of sodium chlorid, boric acid, sublimate, and sodium bicarbonate under the same conditions, progress rather more seriously than when left alone.

Reference may be made to the following articles:

Alfred Vogt: Weitere experimentelle und klinische Untersuchungen über dem schädlichen Einfluss von künstlichen Anilinfarben auf das Auge, Inaugural Dissertation, 1905, and *Ztschr. f. Augenh.*, xiii.

Alfred Vogt: [illegible] ber die Bedeutung der chemis [illegible] Anilinfarbstoffen für deren [illegible] leimbaut, *Ztschr. f. Augenh.*, xv.

Alfred Vogt: Recherches cliniques et expérimentales sur l'action des couleurs artificielles d'aniline sur la conjonctive, *Arch. d'ophthal.*, April, 1906.

The articles mention also the literature.

EDMOND E. BLAAUW, M.D., Buffalo, N. Y.

ACIDOSIS—ACID INTOXICATION—CYCLIC VOMITING

To the Editor:—Have epidemics of acid intoxication of children (cyclic vomiting) been reported recently at Concord, N. H., and Birmingham, Ala.? If so, in what publications can I find records of the same? E. F. C., Pennsylvania.

ANSWER.—The newspapers have referred to an "epidemic" of "acidosis" at Concord during December and January with 100 cases and 11 deaths. The secretary of the State Board of Health informs us that there has been an unusual amount of sickness among young children in Concord during the winter, but only a small part of it could be classed under the head of acidosis. In a large number of cases, however, acetone was found in the urine, and they should be classed rather as acetonuria. There have been seven deaths in Concord from acidosis. No unusual number of cases of this affection have been reported from Birmingham, Ala. At this season of the year, when influenza and catarrhal conditions of the nasopharynx are prevalent, acid intoxications are frequently observed in children, and such conditions have been the most frequent exciting cause or most frequent accompaniment of the cases of acid intoxication in both Concord and Birmingham. The affection is a disturbance of metabolism and therefore could not be spoken of correctly as epidemic. Articles on acidosis, acid intoxication and cyclic vomiting have been published as follows:

Parke, Thomas D.: Symptom-Complex of a Series of Intestinal Cases with Pathologic Findings, THE JOURNAL A. M. A., Nov. 30, 1907, p. 827; Further Report on Ileocolitis Complicated by Acidosis, THE JOURNAL A. M. A., Sept. 17, 1910, p. 991.

Sedgwick, J. P.: Studies of Recurrent or Periodic Vomiting, *Am. Jour. Dis. Child.*, April, 1912, p. 209.

Abt, I. A.: Acid Intoxication, *Am. Jour. Med. Sc.*, January, 1914.

Jenkins, T. W.: Acidosis, *Albany Med. Ann.*, December, 1913.

A CLEAN SURGICAL JOURNAL

To the Editor:—In addition to THE JOURNAL, I wish to have the best surgical journal I can get. I like the *Annals of Surgery*, and have but one objection to it: I do not care to help advertise the peculiar class of drugs and appliances to which the publishers of the *Annals* give space. Otherwise it seems to be a most excellent periodical. Please inform me if there is a better that has not this objectionable feature. I am getting the *Southern Medical Journal*. It is the cleanest medical publication I have ever seen, aside from our Association journal. What I want in addition to what I now have is the best surgical journal published, suited to the practitioner in the small town, who does such surgery as comes to him, turning nothing away that he can do.

S. H. LANDRUM, M.D., Altus, Okla.

ANSWER.—The only surgical journal that follows the Council on Pharmacy and Chemistry in censoring its advertisements of proprietary remedies is *Surgery, Gynecology and Obstetrics*. This is published at 31 North State Street, Chicago; the annual subscription price is $10—and it is worth it.

CLEANING SLIDES AND COVERS

To the Editor:—Please give the best method for cleaning old microscope slides and cover-glasses, to remove oil, balsam, old blood-smears, etc. QUIEN.

ANSWER.—Following is the method given by Lee in "The Microtomist's Vade-Mecum":

"Cleaning Slides and Covers: New ones should first be soaked in one of the following liquids: strong sulphuric, hydrochloric or nitric acid, or aqua regia, or a mixture of an ounce each of sulphuric acid and bichromate of potash with from 8 to 12 ounces of water, then washed first with water and lastly with alcohol, and dried with a clean cloth.

"For used ones, if a balsam mount, warm, push the cover into a vessel with xylol or other solvent of the mount, and put the slide into another vessel with the same, leave for a few days, and then put into strong alcohol. If this is not sufficient, treat as for new ones. Some persons boil in compound solution of cresol, which I do not find efficacious."

ARTICLES ON DISEASES OF THE JAW

To the Editor:—Please refer me to the most recent literature on diseases and injuries of the jaws

M D, Nashville, Tenn

ANSWER—Following is a list of references to literature on this subject:

Gobell, R: Correction of Deformity of Lower Jaw, *Deutsch Ztschr f Chir*, June, 1913
D'Agata, G: Sporothrix Process in Upper Jaw, *Berl klin Wchnschr*, Sept 22, 1913
Brown, G V I: Pathologic and Therapeutic Possibilities of Upper Maxillary Contraction and Expansion, *Wisconsin Med Jour*, October, 1913
Leonhard J v. d H.: Simple Prothesis after Removal of Great Part of Lower Jaw, *Jour. Laryngol, Rhinol and Otol*, November, 1913
Faucett, P H: Multilocular Cystoma of the Lower Jaw, THE JOURNAL, April 19, 1913, p 1248
Smith, J F. Osteitis Fibrosa Cystica of the Lower Jaw, THE JOURNAL, Nov 1, 1913, p 1657.
Murphy, J B. Use of Palate Mucous Membrane Flaps in Ankylosis of the Jaw, due to Cicatricial Formations in the Cheek, THE JOURNAL, July 26, 1913, p 245
Golden, W: Actinomycosis of Lower Jaw, *West Virginia Med. Jour*, April, 1913
Goto, S: Teratoma of Upper Jaw, *Arch f. klin Chir*, 1913, c, No 4
Frenzel, A.: Treatment of Fractured Jaw, *Deutsch med Wchnschr*, March 20, 1913
Schottlander, E Sarcoma of Upper Jaw, *Deutsch Ztschr. f. Chir*, February, 1913.
Pictler, H, and Oser, E G: First Prothesis After Resection of Lower Jaw, *Arch f. klin Chir*, 1913, cxix, No 4
Hagedorn. Treatment of Fracture of Upper Jaw, *Deutsch med Wchnschr*, Dec 12, 1912
Kirmisson, E: Ankylosis of the Jaw, *Bull de l'Acad de méd.*, Feb 11, 1913
Alessandri, R, and Chiavaro Resection of Three Fourths of Jaw and Mode of Repair, *Policlinico*, Rome, Feb 23, 1913
Beach, S J: Evils Caused by Poor Development of Upper Jaw, *Maine Med Jour*, April, 1913
Kuhn, F: Technic for Removal of Cancer of Upper Jaw, *Deutsch med Wchnschr*, May 15, 1913

NAPOLEON'S SURGEON GENERAL

To the Editor:—In THE JOURNAL, Jan 10, 1914, p 149, under Queries and Minor Notes, there is a reference to the "Works of Napoleon's Surgeon General" I have always been under the impression that my great grandfather, Auguste Baudry, was chief surgeon on Napoleon's staff Have you ever heard of such a person or can you put me in touch with the proper persons to secure such information? We have three medals from Napoleon, two of the crosses of the Legion of Honor, one won during the plague in Egypt

MARY M MOORE, Baltimore, Md

ANSWER—We have made a careful search for Auguste Baudry and have not been able to find any reference to him anywhere, even in the British Museum Catalogue or in Larrey's memoirs of the Egyptian campaign. Larrey became surgeon-in chief of the Consular Guard and its hospital in 1804, and in 1805 Napoleon nominated him *inspecteur du service de santé des armées*. which is the present equivalent of the surgeon general in the French army Baudry may very likely have been a chief surgeon on the staff, which may have been some merely official position, like that of any medical officer designated to serve on the general staff of our army in time of war for special reasons The best way in which this information could be obtained would be to write directly to the Département de la guerre. Paris. France, stating the facts, and the department would undoubtedly comply with the request for information.

REFERENCES TO DISEASES OF THE CAT

To the Editor:—I am anxious to obtain all possible information bearing on the transmission of contagious and infectious diseases by the domestic cat, and also the diseases to which it is commonly susceptible and their possible relation to man

WARREN L. DUFFIELD, M D, Brooklyn, N Y.

ANSWER—Following is a list of references to literature on this subject:

Hill, J. W.: Diseases of the Cat, New York, William R Jenkins Company, 1901. $1 25
Hobday, F T G: Surgical Diseases of the Dog and Cat. Ed 2, Chicago Medical Book Company, 1906, $3 25
Hutyra, F., and Marek, J. Special Pathology and Therapeutics of the Diseases of Domestic Animals, 2 volumes, Alexander Eger, 132 West Lake Street, Chicago, 1912, $7.50
Fleming, G: Contagious Diseases of Animals, New York. William R Jenkins Company, $0 25
M'Gowan, J P.: An Epidemic Among Cats, Supervening and Simulating Distemper, *Jour. Path and Bacteriol*, 1911 1912. xvi 257
Ruppert, F: Bipolare Bakterien als Erreger einer Katzenseuche, *Deutsch tierarztl Wchnschr*, 1912, xx, 441
Haring, C M Diseases of Domesticated Animals Affecting the Public Health in Alameda County, *California State Jour Med*, 1911, ix, 146
Skrzynski, Z: Reponse au travail de Gaertner: Eine neue Katzenseuche, *Centralbl f Bakteriol*, 1 Abt, 1910, liv, Orig, p 451
Gaertner: Eine neue Katzenseuche, *Centralbl. f. Bakteriol*, 1 Abt, 1909, li, Orig, 232
Skrzynski, Z Nouveau microbe pathogénique pour les chats, *Ann de l'inst Pasteur*, 1908, xxii. 682
Moore, V A The Pathology and Differential Diagnosis of Infectious Diseases of Animals, Ithaca, N. Y, Taylor & Carpenter, $4

PROFESSIONAL SERVICES OF PHYSICIANS TO ONE ANOTHER

To the Editor—Please answer these questions:

1 Dr A treats the child of Dr B, and sends B a bill for services rendered B is uncertain whether or not A knows that B is a doctor of medicine. Shall B pay the bill without comment, or shall B tell A that he (B) is a physician?

2. Under the same conditions except that B undoubtedly knows A has knowledge that B is a doctor of medicine, shall B pay without comment, or accompany the payment with a sharp criticism, or simply disregard the statement?

This situation under the conditions stated, and various other combinations of these conditions, frequently presents itself.

P M D

ANSWER.—1. B should pay the bill without comment.

2. Notwithstanding the added condition, B should pay without comment.

Article II, Chapter II of the "Principles of Medical Ethics" reads:

> SECTION 1—Experience teaches that it is unwise for a physician to treat members of his own family or himself. Consequently, a physician should always cheerfully and gratuitously respond with his professional services to the call of any physician practicing in his vicinity, or of the immediate family dependents of physicians
>
> SEC 2—When a physician from a distance is called on to advise another physician or one of his own family dependents, and the physician to whom the service is rendered is in easy financial circumstances, a compensation that will at least meet the traveling expenses of the visiting physician should be proffered When such a service requires an absence from the accustomed field of professional work of the visitor that might reasonably be expected to entail a pecuniary loss, such loss should, in part at least, be provided for in the compensation offered

An adaptation of these two sections answers the question our correspondent propounds: Dr A renders professional services to one of Dr. B's family dependents; define A's and B's conduct with regard to A's service and B's acceptance of it

First. B has no "right" to A's professional services unless B is engaged in the practice of medicine in A's vicinity. If B gains his livelihood from a source other than the practice of medicine, he should not expect A's gratuitous professional services.

Second. If A fails to respond with "gratuitous" service to a dependent member of B's family, A sins against the ideals of the profession rather than against B, the individual physician practicing in A's vicinity. It is the profession at large, rather than B, who should call A to account for his neglect of the opportunity presented by B's necessity.

TREATMENT OF HYDROFLUORIC ACID BURNS

To the Editor:—What is the best treatment of burns made by hydrofluoric acid?

C C DUBOIS, M D, Warsaw, Ind

ANSWER—The burns should be washed with diluted milk of magnesia Ammonia is too caustic. Reference may be made to the following:

Desoignes *Am Jour Pharm*, October, 1890, p 494, from *Répert de pharm*, Sept 10, 1890; abstr, *Proc. Am. Pharm Assn*, 1891, xxxix, 494
Branson, Laura H Physical Injuries as Results of Hydrofluoric Acid THE JOURNAL, Aug 10, 1912, p 436

HEX-A-LITH

To the Editor:—The Smith-Dorsey Company, of Lincoln, Neb, puts out a preparation under the title of Hex a lith which is a combination of hexamethylenamin with lithium citrate What is the physiologic effect of such a combination? [illegible] the lithium citrate should have the tendenc [illegible] alkaline, and we have been taught that [illegible] act only in an acid medium

FRED W. PHIFER, M D, Wheatland, Wyo

ANSWER—The lithium citrate would render the urine alkaline and defeat the object of administering hexamethylenamin.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

WISCONSIN'S EXPERIMENT IN MARRIAGE REGULATION

Probably no law of recent enactment has caused the amount of general discussion in the press that has been aroused by the law adopted at the last session of the Wisconsin legislature, requiring a physician's certificate of immunity from venereal disease on the part of the groom as a preliminary to the issuing of a marriage license. Although the law was enacted early in the year, but little attention was apparently paid to it until the time of its enforcement was near at hand. It went into effect Jan. 1, 1914. Apparently neither the medical profession nor the public realized its significance until the form of the medical certificate was brought to the attention of physicians. Then it at once became evident that the law, like so much of our legislation, had been hurriedly drafted and was loose in construction, vague in meaning and capable of various interpretations. It provided that each male applicant for a marriage license should present a certificate in the form of an affidavit from a reputable physician, stating that the latter had subjected the applicant to "all of the known and recognized tests known to medical science," and had found him free from venereal infection. For making these examinations and executing the certificate the physician was allowed a maximum compensation of $3.

The united protest which arose from Wisconsin physicians was, in reality, a protest against a law which physicians knew to be practically impossible. Unfortunately, these objections were at first placed before the public in such a way as to carry the impression that the opposition of physicians was entirely due to the amount of the fee. The first editorial comments which appeared in the newspapers, both in Wisconsin and throughout the country, were evidently hastily written, without a knowledge of the facts, and were largely criticisms of the attitude taken by physicians. It is only fair to say that practically all of the newspapers, after the real facts became known, withdrew their criticisms and adopted the same position as that taken by the medical profession.

While in some cases individual physicians or medical organizations acted hastily or spoke unwisely or intemperately, the bulk of the Wisconsin profession acted admirably, simply reiterating at every opportunity that the law required physicians to swear to a statement of facts, the acquisition of which would require repeated examinations, for weeks, if not months, the possession of an elaborate and expensive equipment and a technical training possessed only by a few. From a scientific point of view, under present conditions the enforcement of such a law is impossible, regardless of the amount of the fee. The average physician cannot make a Wassermann test, even if he were provided with the necessary equipment.

As announced in our editorial columns,[1] the law was declared unconstitutional by the first judge before whom a case involving it was taken. While this decision of the lower court is subject to the review of the appellate and supreme courts, the inequity of the law is such as to make it practically certain that it will be held void by the court of last resort.

This, in brief, is the history of one of the most instructive experiments in advanced legislation that the country has seen for some time. The good effect of Wisconsin's experience is manifest in other states. It is safe to say that neither this winter nor next will see the flood of absurd and impracticable bills on all public health topics with which our legislatures were deluged last winter. The general public, the law-making bodies, the sociologists and the medical profession must all learn that while there is a legitimate field for constructive public health legislation, there are also definite limits for such efforts and that there are many subjects which cannot be regulated by law, however desirable such regulation may appear. It is highly desirable that future wives and mothers should be protected against marriage with diseased men. When we have reached a point in public enlightenment at which public sentiment demands such protection, it will then be necessary to devise some way in which the state can secure such information through properly conducted official channels. To attempt to establish, by law, a standard which is scientifically impossible on a basis of compensation which is economically ridiculous can only bring such efforts into disrepute and result in failure.

Following the enactment of the law, criticisms of physicians in the newspapers varied all the way from the comment of the Racine (Wis.) *Times*, which under the title "Greed and Doctors" made the startling statement that any doctor in the state could afford "to spare the few minutes required to make the cursory examination without any fee at all, and that the $3 is fair pay, everything considered," to the Los Angeles *Times*, which said: "The average doctor is a busy man. . . . To satisfy the needs of the eugenic examination it would be necessary to make in each case an examination of all the organs and to do it well; otherwise the aim of the eugenists would be defeated and the whole thing would be a farce. It is preposterous to expect reputable physicians to make such a series of tests for $3. Besides, they have really sick people to look after."

It soon became evident to every one interested that the difficulty was not alone in the size of the fee, but that other serious objections must be considered. After enumerating the necessary steps of an examination which would enable a physician to make affidavit to the condition of the applicant, the New York *Tribune* expresses the fear "that the work will fall into the hands of unscrupulous practitioners, whose examinations will not comply with the legal requirements and that thus the system will become delusive." After reviewing the discussion before the Milwaukee County Medical Society, the Milwaukee *Evening Post* points out what the literal enforcement of the law would mean to physicians as far as work and responsibility are concerned, and says: "Holding these views, is it wonderful that they [Milwaukee physicians] proclaim the enactment ill advised? . . . The protection of the innocent, the safeguarding of health of those yet unborn. these are objects worthy of the utmost vigilance on the part of members of the medical profession, and of all good men and women as well. . . . That the legislature attempted to place on the statute books a chapter intended to effect this object is creditable to all concerned. Since the enactment is impracticable, it behooves the collective wisdom of the community to devise practical precautions to meet the need which this tentative effort of the law-makers was meant to subserve."

Summarizing the practical objections to the law, the Beloit (Wis.) *News* feels that the object aimed at, "to protect innocent women who are now subject to untold suffering because of the diseases of the men they marry," is most commendable, and that a way should be found to make the provisions of the law applicable. The El Paso (Tex.) *Herald*, on the other hand, anticipates that the only good which will result will be the stimulation of public sentiment. It says truly that "in eugenics a little knowledge is a very dangerous thing, but if out of the whirlwind of talk and discussion that has swept through the minds of men lately mothers learn to teach their children a bit more honestly about sex, and parents learn to protect their daughters from men known to be immoral, and if sons are honestly warned against the results of vice, the world will have gained a little." The Wausau (Wis.) *Record*, criticizing the law as a sample of progressive legislation, condemns the entire principle of regulation. which according to the editor, has proved a failure repeatedly in the past. "There is not a commission in Wisconsin whose prototype did not exist two thousand years ago, not a feature of the whole idea but has been worn threadbare as an instrument of tyranny by the nations now in ruin." Greece and

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[1] The Wisconsin Marriage Law Declared Unconstitutional, editorial, THE JOURNAL A. M. A., Jan. 24, 1914, p. 305.

Rome, medieval Europe and English parliamentary government are all arraigned as witnesses of the folly of regulation. The *Record* concludes that "it is time for the misguided population to wake up and grasp the fact that the whole course of civilization has been away from rather than toward the sort of thing that the oligarchy at Madison is setting up, and to learn that true progress now and always means the liberation of the people from slavish and degrading official supervision."

The Elgin (Ill.) *Courier*, after insisting that the state has no right to fix a definite limit for an indefinite amount of professional services, and that, on the other hand, "the tendency of the times is too much in the direction of rule-making," says that "the state might do far better if it did more for the child that is inevitably going astray and pay less attention to adults who have already blundered." The editor feels, however, that such laws can do no great amount of harm and that their principal function is to "mark the passing of time and, in the meantime, education is being made more accessible, and perhaps it is education and nothing else that can correct the evils which have engaged the attention of the eugenists."

The Louisville (Ky.) *Herald* quotes an eminent Wisconsin lawyer to the effect that the law is an unconstitutional infringement of individual rights, and while declaring its complete sympathy with the objects sought by the more conservative proponents of eugenics, the editor still holds that "the law has limits. Certain social problems must be solved otherwise than by statute. . . . The remedy for the evil . . . seems to lie in education rather than in legislation. Let parents be instructed to guard their sons and daughters against ill-advised marriages. Let the parents, instead of the law, demand certificates of health from prospective wedding principals. Teach the sons and daughters that other requirements in addition to love are essential to happiness in marriage. Without such instruction the most stringent law . . . stands a chance of being a dead letter. With such instruction no law is needed."

The Milwaukee *Sentinel*, after criticizing the law as it passed, undertakes some "constructive suggestions" for the consideration of future legislatures. The *Sentinel* asks, "if we are to have a statute for the public regulation of marriages . . . why not provide for its public administration? Medical discussion and ridicule of the statute has brought out the fact that the average private practitioner is totally incompetent, and in point of apparatus utterly unfurnished for the required tests. . . . The private practitioner's difficulty seems to point plainly to the public doctor and public equipment . . . as the proper recourse. If we are to have such a statute at all, it ought to be made effective for its good purposes by proper administrative provisions. That would involve a system of regularly constituted medical examiners and a state equipment for the really requisite tests."

The same sentiment is expressed by a number of other Wisconsin editors who, after considerable discussion, have finally taken the ground that if the public good required it and the state had the authority to restrict marriage to those who were able to comply with certain physical standards, then the question of determining who are fit for marriage rests on the state and not on the medical profession, and that if the state desired medical services in performing any of its functions, then it should provide those services on a proper basis. Various loopholes and subterfuges for the evasion of the law were pointed out. The attorney-general of the state attempted to put a "reasonable" interpretation on the law by holding that the provision requiring the application of "all known scientific tests" meant only an application of those with which the individual physician happened to be familiar and able to apply. The result of such a ruling would have been that the value of the certificate in each case would have depended entirely on the knowledge and ability of the physician signing it. A Milwaukee attorney tried to solve the puzzle by calling attention to the fact that, under the common law, no marriage ceremony was necessary and that only the filing of a mutual agreement to live together as husband and wife was required to constitute legal marriage in the state. As the legal fee for filing such a document would be only ten cents, this suggestion was hailed as a solution of the problem that was at once practical and economic.

About this time Hon. Bird C. Coler, in an address in Chicago, threw a flood of white light on the situation. Mr. Coler, assuming for the time being the rôle of a prophet, predicted that if children were taught eugenics in the public school the race would die out in one hundred and fifty years. Mr. Coler did not submit the mathematical calculations by which he arrived at this definite conclusion, but advanced, as proof of his assertion, the birth-statistics of the graduates of a woman's college in which sex hygiene had been taught for some time past. Mr. Coler's reasoning seems to have been thus: The graduates of a certain woman's college have given birth to few children. Sex hygiene has been taught in this school for many years, therefore, sex hygiene is responsible for the low birth-rate among the graduates. Mr. Coler's peculiar brand of logic is referred to newspaper paragraphers as an almost unlimited inspiration for mirth. His contribution was quickly taken up and widely commented on, without any great amount of enlightenment resulting.

Another curious development was the objection raised by Milwaukee merchants, who found that in the three weeks of January during which the legal situation was under discussion marriages decreased so much as to injure their business. During the first two weeks of January only five marriage licenses were issued in Milwaukee, as compared with 250 in the same period last year. The Chicago *Post* states that it is estimated that every married couple spends an average of $300 on house furnishings, clothing and other necessities during the first two weeks of married life, and that this amounts to a loss to Milwaukee merchants of about $75,000 in that time. This estimate maintained through the year would amount to over $4,000,000. The *Post* observes that "the fact that probably much of this money is being spent on cigars, drinks, candy and theater-tickets will not comfort the dealers in household furnishings." Fortunately, the decision of the court has probably, by this time, rescued Milwaukee merchants from the danger of bankruptcy.

These editorial opinions and comments might be multiplied almost without limit. After careful and critical perusal of views from all parts of the country, one is inclined to regard the opinion of the Columbus (Ohio) *Dispatch* as the conclusion of the whole matter. "The Wisconsin law is a model all right, although not of what was intended. It is, instead, a model of legislative ignorance and haste."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut: New Haven, March 10. Sec., Dr. Charles A. Tuttle, New Haven. Homeopathic: New Haven, March 10. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Eclectic: New Haven, March 10. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

Maine: Portland, March 10-11. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

Massachusetts: Boston, March 10-12. Sec., Dr. Walter P. Bowers, Room 159, State House, Boston.

Wyoming: Laramie, March 10-12. Sec., Dr. H. E. McCollum, Laramie.

Tennessee May Report

Dr. A. B. DeLoach, secretary of the Tennessee State Board of Medical Examiners, reports the written examination held at Memphis, Nashville and Knoxville, May 1-2, 1913. The number of subjects examined in was 8, total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 400, including 173 non-graduates, of whom 306 passed, including 122 non-graduates and 94 failed, including 51 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1909)	78.4
University of Arkansas	(1912)	75.5, 82.6
Howard University	(1912)	86.1
Atlanta College of Physicians and Surgeons	(1912) (1913)	83.4, 88.2 81.5
Bennett Medical College	(1911)	81.6
Chicago College of Medicine and Surgery	(1913)	83
Louisville National Medical College	(1910)	77
University of Louisville	(1910) (1911) (1913)	83.7 84.2 84, 84.
College of Physicians and Surgeons, Baltimore	(1910)	84.9
Johns Hopkins University	(1911)	90.4
Maryland Medical College	(1912)	79.6
Mississippi Medical College	(1907) (1909) (1910) (1911)	77.1 75.5 78 80.
American Medical College, St. Louis	(1912) (1913)	82.5 76.2, 81.4 82, 82.1, 84.6, 85, 85.4.
Barnes Medical College	(1910) (1911)	79.7 77.2, 79.5
College of Physician uis	(1908)	77.4
Homeopathic Medicr	(1908)	79.2
University Medical	(1909)	80.5
Columbia Univ., Coll. of P. & S., New York	(1908)	93
Leonard Medical School	(1910) (1911) (1912)	91.1 75 81.7
North Carolina Medical College	(1911)	77.9
Eclectic Medical College, Cincinnati	(1913)	75.4
University of Pennsylvania	(1911)	89.5, 93.6
Chattanooga Medical College	(1907)	75, 75, 77.4
Lincoln Memorial University	(1912) (1913)	75 81.9, 83.5
Meharry Medical College	(1905) (1907) (1911) (1913)	80.2 79.6, 81.1, 86.6 75.6, 78.4, 82.4, 86.7 75.2, 75.7, 76.5, 76.5, 77.1, 77.4, 77.9, 78.1, 79.1, 79.2, 79.4, 79.5, 79.6, 79.6, 80.4, 80.5, 80.6, 80.9, 80.9, 81, 81.1, 81.7, 81.9, 81.9, 82, 82.4, 82.4, 82.6, 82.6, 82.7, 83, 83.5, 83.5, 83.7, 83.7, 84.4, 85.9, 86, 86.7, 87, 87, 87.2, 87.2, 87.4, 89.6, 89.9, 91.6.
Memphis Hospital Medical College	(1912) (1913)	75.7, 86.7 75.5, 76, 77, 77, 79.5, 79.6, 79.9, 80, 80, 80, 80, 80, 81, 81.1, 81.9, 82, 82, 83, 83, 83 83.2, 86.4, 86.7, 87, 87.5.
Vanderbilt University	(1910) (1912) (1913)	77.9, 80.1, 89 81, 86, 87, 87.5, 88, 83, 83, 83, 83.5, 83.5, 84.1, 84.5, 85, 85, 85.4, 85.5, 86.9, 87.1, 87.5, 88.6, 89, 89.4, 89.9, 90.5.
University of Tennessee	(1901) (1905) (1912) (1913)	76 85 78.5 76.4, 81, 81.2, 82.9, 83.4, 84.2, 85.1, 85.6, 86.1, 86.5, 87, 87.1, 87.4, 88.2, 89.2, 89.7, 90.1, 95.1.
University of West Tennessee	(1910) (1911) (1913)	80 76.7 77.4, 78.4, 82.5.
University of Naples, Italy	(1901)	82.7
Non-graduates		75, 75.2, 75.2, 75.4, 75 4, 75.5, 75.9, 76.2, 76.2, 76.4, 76.9; 77, 77. 77.1, 77.2, 77.2, 77.7, 77.9, 78, 78.4, 78.7, 79, 79, 79.1, 79.5, 79.5, 79.6, 80, 80, 80, 80, 80, 80, 80.5, 80.5, 80.5, 80.6, 80.6, 80.7 80.7, 80.9, 80.9, 81, 81, 81, 81, 81, 81, 81.1, 81.7, 82, 82, 82, 82.1, 82.2, 82.4, 82.4, 82.6, 82.6, 82.6, 83, 83.1, 83.6, 84, 84, 84, 84, 84.1, 84.1, 84.6, 84.9, 85, 85, 85, 85.1, 85.1, 85.2, 85.4, 85.4, 85.4, 85.4, 85.6, 85.6, 85.7, 85.7, 85.9, 85.9, 86, 86, 86, 86, 86.1, 86.5, 86.5, 86.6, 86.7, 86.9, 87, 87, 87, 87, 87, 87.1, 87.2, 87.4, 87.4, 87.4, 87.5, 88, 88.1, 88.4, 88.6, 88.7, 88.7, 89, 89, 89, 89, 89.2, 89.7, 92.9.

FAILED

College	Year Grad.	Per Cent.
Southern College of Med. & Surg.	(1912) (1913)	71.4 62.5, 67.9
Bennett Medical College	(1913)	73.9
Illinois Medical College	(1909)	64.5
Hospital College of Medicine, Louisville	(1893)	68
Maryland Medical College	(1911)	73.6
American Medical College, St. Louis	(1913)	62.1
Barnes Medical College	(1910)	71.2
Mississippi Medical College	(1911)	66.4, 72, 74.7
Chattanooga Medical College	(1903)	51.6
Knoxville Medical College	(1909)	61.5, 73.4
Lincoln Memorial University	(1910) (1911) (1913)	49 55.6 57.5, 64.9, 71.1, 71.5, 71.5, 72.5.
Memphis Hospital Medical College	(1913)	65.2, 66.6, 70.1, 72, 73.5, 74.
Meharry Medical College	(1910) (1912) (1913)	70.4 68.9 71
University of West Tennessee	(1909) (1910) (1912) (1913)	72.7 58.7 67.4, 71.2 69.6, 74, 74.5.
Universities of Nashville and Tennessee	(1911)	74.4
University of Tennessee	(1895)	46
Vanderbilt University	(1913)	58, 71.2
Non-graduates		49.6, 55, 56 5, 56.6, 58.7, 62.5, 63, 63, 67.1, 67.5, 67.7, 67.7, 67 7, 68, 68.2, 68.4, 68.5, 68.9, 69.1, 69.5, 69.6, 69.9, 70, 70.2, 70.4, 70.7, 71, 71.5, 71.6, 71.6, 72, 72.1, 72.4, 72.6, 73, 73.2, 73.4, 73.4, 73.6, 73.7, 74 74, 74, 74.1, 74.2, 74.2, 74.2, 74.5, 74.6, 74.7.*

* Rejected on account of fraud.

West Virginia November Report

Dr. S. L. Jepson, secretary of the West Virginia State Board of Health, reports the oral and written examination held at Parkersburg, Nov. 10-11, 1913. The number of subjects examined in was 10; total number of candidates examined was 24, of whom 16 passed and 8 failed. Eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University	(1912)	85.3
Kentucky School of Medicine	(1906)	81.1
University of Louisville	(1913)	84.9
College of Physicians and Surgeons, Baltimore	(1912) (1913)	81.1, 86.2 88.7, 96.5.
Maryland Medical College	(1912)	83.5, 84.4
Leonard Medical School	(1913)	82.4, 83.5, 83.6, 85.7, 86.8.
North Carolina Medical College	(1911)	88.6
Medical College of Virginia	(1912)	88

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1913)	78.5
Leonard Medical College	(1911) (1913)	72.1 73.5, 79.6
Eclectic Medical College, Cincinnati	(1912)	77.3
Meharry Medical College	(1907)	79.3
University College of Medicine, Richmond	(1913)	78.2
National University, Athens	(1906)	77.7

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Johns Hopkins University	(1911)	Maryland
University of Maryland, School of Medicine	(1908)	Maryland
College of Physicians and Surgeons, Boston	(1912)	N. Carolina
Leonard Medical College	(1912)	Georgia
Ohio Medical University	(1903)	Penna.
University of Tennessee	(1912)	Tennessee
University College of Medicine, Richmond	(1912)	Virginia
University of Virginia	(1911)	Virginia

SURGERY

1. How would you treat acute traumatic synovitis of the knee-joint? 2. Should splints be applied in flexed or straight position in a fracture of the olecranon process? Why? 3. Describe a typical case of acute prostatitis. What treatment should be employed? 4. What is meant by McBurney's incision for appendicitis, and why made? 5. What treatment should be employed in a compound fracture of the astragalus? What is the usual result of such an injury? 6. Define shock and give treatment. 7. Define ulcer, abscess and fistula. Give *treatment of each.* 8. What is meant by Pott's fracture? Give treatment. 9. Differentiate benign and malignant tumors. Name two of each. 10. Describe briefly the preparation of patient for laparotomy.

ANATOMY AND EMBRYOLOGY

1. Describe the clavicle. 2. Describe the lateral ventricles of the brain. 3. Describe the axilla. 4. Name the extensors of the fingers and give their nerve supply. 5. Describe the blood-vessels of the walls of the heart. 6. Describe the mesentery and name the viscera supplied with this structure. 7. Name the bones and ligaments entering into the formation of the knee-joint. 8. Name the ductless glands. 9. Define zona pellucida, centrosome, mesoderm, urachus, ductus arteriosus. 10. Describe the blood-vessels of the placenta.

BACTERIOLOGY AND HYGIENE

1. What are bacteria? What general purpose do they serve in the economy of nature? 2. What is a virus? How attenuated? 3. Give two methods of producing artificial immunity against infectious diseases. 4. Of what value is bacteriology in the diagnosis of syphilis? 5. What proof is necessary to demonstrate a causal relation between a given bacterial species and a disease. 6. What are occupational diseases? Give three examples. 7. Name five diseases of which impure milk is a carrier. 8. How would you disinfect a room in which a patient suffering from a contagious disease had died? 9. What is a disinfectant? Name three effective for general purposes. 10. Discuss mode of dissemination of typhoid fever.

OBSTETRICS AND GYNECOLOGY

1. Describe a normal labor, its stages and its management. 2. Give the diameter and boundaries of the inlet to the true pelvis. 3. Give the symptoms and treatment of puerperal septicemia. 4. What do you regard as the best method of delivery in an occipitoposterior position when the head fails to engage? 5. What movements, when complete, constitute the mechanism of labor? 6. Give your technic in the examination of a gynecological case in your office. 7. Treatment of gonorrhea in the female; name its complications and their treatment. 8. Differentiate uterine fibroid tumor, pregnancy and tumors of ovary. 9. Diagnosis, prognosis and treatment of carcinoma of uterus. 10. Name the most common displacements of the uterus.

SPECIAL MEDICINE

1.Give the principal points required in taking the history of a case. 2. Give points on the chest at which the four principal heart murmurs are heard. 3. What is meant by myopia, hypermetropia, and how is each corrected? 4. Describe a case of ophthalmia neonatorum; give cause and prevention. 5. Hay fever; give cause, symptoms and treatment. 6. Epistaxis; give cause and treatment. 7. Laryngoscope; describe method of use. 8. Follicular pharyngitis; describe symptoms and treatment. 9. Hardened ear wax; give symptoms and treatment. 10. Abscess of middle ear; how diagnose and treat.

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Name three inorganic acids and give their elementary composition. 2. Define atom and molecule. 3. What is the source of glycerine? What four simple elements are always found in proteids? 5. Give test for blood in urine. 6. Give test for bile in urine. 7. Give chemical formulas for: nitric acid; sulphuric acid; hydrochloric acid. 8. Give the chemical name and formula for Epsom salts. 9. What is an antidote for phenol when a poisonous quantity has been taken? 10. What would be the proper thing to do should you find a person apparently dead on the public road?

PHYSIOLOGY AND HISTOLOGY

1. What is the source of animal heat, and how is the temperature of the body maintained? 2. What is the composition and action of the bile? 3. Describe the course and changes nitrogenous foods undergo in the body. 4. Give the physiological action of the pneumogastric nerve 5. Red corpuscles: Describe them, where formed and destroyed. Give function. 6. What is the effect of the use of alcohol long continued, on the human body? 7. Define secretion, excretion and assimilation. 8. What changes are produced in the air and in the blood by respiration? 9. Give the histological structure of the kidneys. 10. Give histology of the skin.

MATERIA MEDICA AND THERAPEUTICS

1. Strychnin: From what derived, dose, effect on heart and respiration? 2. Codein: From what derived, dose, what effect upon

respiration. Give therapy. 3. Digitalis: Dose of tincture, effect on heart and pulse, therapeutic uses, when contra-indicated. 4. Give dose of (1) atropin sulphus, (2) hyoscin, (3) cocain, (4) apomorphin, (5) hydrargyri chloridum corrosivum. (6) hydrargyri chloridum mite, (7) potassii et sodii tartras, (8) liquor potassii arsenitis, (9) oleum ricini, (10) oleum morrhuae. 5. Antidote for (1) oxalic acid, (2) opium, (3) nitric acid, (4) iodin, (5) arsenic, (6 corrosive sublimate, (7) lye, (8) phosphorus, (9) silver nitrate, (10) antimonii et potassii tartras. 6. Name three cardiac stimulants, give adult dose, and dose for child two years old. 7. Write a prescription containing not less than three drugs for an adult suffering with dysentery. 8. Adult with history of having taken some drug, rapid breathing and pulse, red efflorescence of skin, active talkative delirium, dry throat, a few convulsions, dilated pupils, diagnosis and treatment. 9. Fluid extract of ergot: Therapeutic use and contra-indications. 10. Acetanilid: Therapeutic use, dose and symptoms of poisoning.

PRACTICE AND PEDIATRICS

1. Define, diagnose and treat acute articular rheumatism. 2. Give the etiology, symptoms and treatment of pernicious anemia. 3. Give the etiology, diagnose and treat typhoid fever. 4. Give the etiology, diagnosis and treatment of diabetes mellitus. 5. Define, diagnose and treat tetanus. 6. Give symptoms and treatment of erysipelas. 7. Describe the physical signs and symptoms of lobar pneumonia. Give treatment. 8. Discuss the etiology and treatment of exophthalmic goiter. 9. Define, diagnose and treat acute poliomyelitis. 10. Discuss the etiology, give symptoms and treatment of chorea.

Iowa January Reciprocity Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the number of candidates licensed through reciprocity, Jan. 14, 1914. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Indiana Medical College	(1906)	Indiana
John A. Creighton Medical College	(1911)	Nebraska
Lincoln Medical College	(1908)	Nebraska

Book Notices

Manual of Obstetrics. By John Osborn Polak, M.Sc., M.D., Professor of Obstetrics and Gynecology in the Long Island College Hospital. Leather. Price, $3 net. Pp. 468, with 122 illustrations. New York: D. Appleton & Co., 1913.

The object of this volume, as frankly set forth, is to place the essential facts and principles of obstetrics within the easy grasp of the student. It is intended as a systematic introduction to the more elaborate treatises, and as a guide in following didactic and practical teaching of the college courses. In preparing a volume of such a nature, brevity is the desideratum. Hence most attention has been given to practical topics, theoretical discussions and elaboration of detail being excluded. The chapters are long but carefully subdivided, such divisions being indicated by bold-faced type. Subheadings are also prominent, and the arrangement of subject-matter and text is such that the student will be able readily to get the important points. The essentials are well formulated and compactly set forth in convenient grouping or in tables. Thus the embryology of the genitalia, the development of the ovum, the signs of pregnancy, preparation for labor and many such topics are fully presented, yet made to occupy a minimum of space. For so compact a presentation the illustrations are abundant and, for the most part, good. Space is given to artificial feeding and to disorders of the new-born infant. No dispute can be entered into with the author as to his position in debatable points, since he has omitted all argument.

Syphilis and the Nervous System, for Practitioners, Neurologists and Syphilologists. By Dr. Max Nonne, Chief of the Nervous Department in the General Hospital, Hamburg. Authorized Translation from the Second German Edition, by Charles R. Ball, B.A., M.D., Chief of the Nervous and Mental Department, St. Paul Free Dispensary. Cloth. Price, $4. Pp. 406, with 98 illustrations. Philadelphia J. B. Lippincott Company, 1913.

Nonne's book on nervous syphilis, of which this is a translation, has already become a classic. Though the first edition appeared only six years ago, citations from it appear everywhere. Not only does the author expound the so-called "four reactions" for nervous syphilis, on which he has expended much labor, but he also tells the story of syphilis of the nervous system in a manner not heretofore attempted by anyone. The book is written in an easy conversational style, divided into nineteen lectures. Much to the regret of English readers, until this translation appeared, no one seemed sufficiently enthusiastic and industrious to begin work on an English translation. It was left for Dr. Ball, an ardent admirer and former student of Dr. Nonne, to accomplish the task of translating his master's book. In common with many other translations from the German, it shares the fault of being too literal. It may appear trite for us to be obliged to reiterate that enthusiasm and industry are not the only requisites for furnishing a good translation of a foreign book. In our opinion, a translator must be master of at least two languages, the one from which he translates and the other into which he translates. In the majority of instances, the mastery embraces one language and a dictionary. In spite of its shortcomings, and there are many, this translation is better than none at all. Because of the well-deserved reputation of its author, the book should find a large reading public.

In Memory of Dr. James Livingstone Thompson, 1832-1913, and His Son, Dr Daniel A. Thompson, 1862-1904. By the Indianapolis Literary Club, the Indianapolis Medical Society, the Loyal Legion of Indiana and Others. Paper. Pp. 98. Indianapolis, 1913.

The extent and the manner in which character and individuality impress themselves on a community, a state or a nation are always interesting, though perhaps impossible of exact measurement and description. It is usually only after men possessing these qualities have passed away that an approximate estimate of their influence in a variety of relations can be made. The profession should be proud of medical men of this type. Such a man was Dr. James L. Thompson of Indiana, a pioneer in ophthalmology who, with his teacher, Dr. Elkanah Williams of Cincinnati, was one of the first men in this country to devote his attention exclusively to this branch. As citizen, physician, soldier and author, a man of great force of character, Dr. Thompson touched the life of his community and the affairs of his profession at many points, and everywhere, as was said of him, "his supremacy was acknowledged by all." His high qualities have stirred his friends to prepare this little memorial, contributed to by a poet, a lay and a medical editor, an author and a number of his brother physicians and others, who have here attempted to express their appreciation of the man.

Industrial Poisoning from Fumes, Gases and Poisons of Manufacturing Processes. By Dr. J. Rambousek, Professor of Factory Hygiene, Prague. Translated and Edited by Thomas M. Legge, M.D., D.P.H., H.M., Inspector of Factories. Cloth. Price, $3.50 net. Pp. 360, with illustrations. New York: Longmans, Green & Co., 1913.

"The book is intended," the author says, "for all who are, or are obliged to be, or ought to be, interested in industrial poisoning." Occupational diseases have been much studied recently. This work was selected by the translator and editor because it seemed to treat the subject in comprehensive and systematic manner within the compass of a small volume. Numerous references to the subject are included in a special appendix. The book is well illustrated with diagrams of apparatus employed for various industries and numerous instances of actual cases of poisoning are quoted. It is interesting and worth while.

Diseases and Injuries of the Eye. A Text-Book for Students and Practitioners. By William George Sym, M.D., F.R.C.S.E. Ophthalmic Surgeon, Edinburgh Royal Infirmary. Cloth. Price, $2.50 net. Pp. 493, with 114 illustrations. New York: The Macmillan Company, 1913.

This book is one of the Edinburgh Medical Series, general editor, John D. Combie, and was probably written at the behest of the editor or publisher for the purpose of filling a place in a series. There does not appear to be any other reason for its existence. The book presents its subject as well as do other numerous similar books. The size of the book is a virtue—it at least is not so pretentious as are some of the larger unnecessary books.

Miscellany

The Declining Birth-Rate.—Among the many expressions of opinion which have been made on the advancing reduction of births in Germany, that of the hygienist, von Gruber of Munich, delivered in the German Association for Public Health must be accorded great significance. The number of births in Germany has steadily decreased from 1876, when it amounted to 426 per ten thousand inhabitants, and since the year 1900 there has occurred a constantly more marked reduction. In 1911, the number sunk about 60,000. The excess of births in 1906 was 149 per ten thousand; in 1911 it was only 113. In the kingdom of Saxony, which was formerly extraordinarily fruitful in children, the reduction has been most marked. In that kingdom the birth-rate has diminished since 1876 by about 40 per cent. The reduction in the fertility of the country women must be especially emphasized because the country was the one real hope and support. The birth-rate has undergone a more marked reduction in Protestant than in Roman Catholic districts. Moreover, there is a certain relation to the political complexion of the locality, for in general those districts in which the representative is a social democrat show a more marked reduction. In Berlin the birth-rate dropped in the period from 1876 to 1912 from 149 to 73, and the legitimate fertility from 240 to 80, that is, to one-third. The reduction is still more marked in the suburbs. The birth-rate of Berlin is no longer sufficient to maintain the present number of the population by its own increase. The important reduction in the last three years is chiefly to be attributed to the fact that extensive circles of the working population are now beginning to follow the example of the well-to-do. A circular query of the Imperial postal department for the year 1911 showed that of the upper employees nearly 16 per cent. are unmarried and of the under clerks not 4 per cent., and that 20 per cent. of the marriages of the higher officials were childless and of those of the under clerks only 13 per cent., and that the children to a marriage of the higher officials average 1.8 and of the under clerks 2.4.

Von Gruber spoke of the influence of venereal diseases and of alcoholism on the reduction in births, which shows itself naturally chiefly in the large cities. In reduction in births voluntary prevention plays a decisive rôle. The birth-rate of southern Slavic people is high. There is little help to be expected from the free play of the forces involved, or else a change would already have occurred in the condition of France, where the need of the fatherland with reference to the reduction in births is plainly seen and where such ardent patriotism reigns. Instead of this there are many districts in France in which there are more deaths than births. France would already have a negative birth-rate if the lack was not supplied by foreigners, especially the Italians. The changed relations of the family, the greater freedom of women and their increasing participation in industry, together with the fear of loss of health and prosperity with many children, favor the restriction of the birth-rate. The fear as to the health of women is unwarranted since it is shown that up to ten children the health of the mother is not materially affected. Nor is poverty a legitimate excuse since there never was a time when the families of workmen were more prosperous than at the present day. The entire population has been permeated with neomalthusianism and with the desire to live a life with less care, less risk, a more comfortable and refined life. This impression is increased by the doctrine of individualism that every one's highest aim in life should be and must be himself. The author emphasized the economic disadvantages of a *stationary* population. Already in France industry and agriculture are at a standstill.

Reduction in the death-rate, especially in infant mortality, cannot possibly compensate for the fall in the birth-rate. In order to overcome the two-child system, two measures especially are requisite: first, a change in our ideals so that the raising of a numerous and healthy posterity shall be regarded as the highest duty of every man; second, the provision of such economic conditions as are required for the rational bringing up of a sufficient number of children. Large sums must be devoted yearly to this purpose, and so applied not only that there shall be a sufficient number of offspring, but also that their health shall be assured. This aim is not to be secured by means of the so-called emancipation of women, by free love and the education of children by the state. . . . In his conclusion, von Gruber spoke with great decision against the advocates of women's rights. They protest against being merely child-bearing machines, as if that were their only function, as if they had not also the task of bringing up their children. They wish now to become thinking machines. But they should leave that to the men whose entire bringing up equips them better for it, for consistency has never been the heritage of the female sex.

The Deformities of Illustrious Men.—In his presidential address at the twenty-sixth annual meeting of French surgeons held in Paris recently, Dr. Kirmisson mentioned among the illustrious men who have been deformed, Tyrtaeus, the lyric poet, who was lame, and Aesop, the fabulist, whose bust by Thorwaldsen shows the deformity of Pott's disease; Alexander the Great, who had torticollis; Soult, Talleyrand, Walter Scott and Lord Byron. Soult's infirmity was not congenital, but was caused by a wound in war. As for Walter Scott, Kirmisson concludes from the information furnished by Scott's autobiography that the cause of his lameness was infantile paralysis, which produced an equinism. One of his biographers, Robert Chambers, says that he rested his weight on the tips of his toes. At the end of two years he began to walk by the aid of crutches. It is difficult to procure exact information with regard to the deformity of Talleyrand. Kirmisson was able to study a shoe of Talleyrand's recently bequeathed to the Carnavalet Museum in Paris, which indicates that the deformity was an equinovarus of the right foot. In the case of Byron, also, a pair of orthopedic shoes made for him as a child, which are in the possession of Murray, the English publisher, indicates the same deformity as in Talleyrand's case. This agrees with a letter written by his mother when the child was 3 years old, saying: "George's right foot turns in. He walks almost entirely on the side of the foot." It also agrees with the description in the *Lancet* by Sheldrake, who was commissioned to make orthopedic shoes for Byron. If the deformity in question seems not to have troubled Talleyrand greatly, it was a veritable torture for Byron. "When one sees what a source of physical and moral torture a deformity may be," remarked Kirmisson, "one realizes the benefit of orthopedic surgery."

Decompressive Trephining in Cerebral Hemorrhage.—Dr. Pierre Marie, professor of pathologic anatomy at the Académie de médecine, read before the Faculté de medécine de Paris an important paper on this subject. The comparison of clinical facts and anatomopathologic lesions of the brain in cerebral hemorrhage leads to the conclusion that the coma is due much less to the sudden irruption of a considerable mass of blood in the interior of the affected hemisphere than to the compression of the brain caused by the presence of this quantity of blood. The sudden irruption of the blood produces ictus, which is a transitory phenomenon; the compression of the brain produces coma, which is a persistent phenomenon, but a deep and lasting coma is not produced unless the opposite hemisphere is compressed also. Pierre Marie was able in several instances to demonstrate the fact that a focus of cerebral hemorrhage, even when very large, from 5 to 6 cm. in length and from 3 to 4 in breadth, does not produce coma if it does not lead to compression of the opposite hemisphere. Conversation may be carried on with the patient; he retains enough consciousness to answer questions and to make gestures which he is told to make. When the unaffected hemisphere is compressed, however, the coma is profound and absolute. The patient has lost all relations with the exterior world. The importance of the compression of the sound hemisphere in the production of coma is great, for it leads to a very simple and logical therapeutic conclusion, the necessity for decompressive trephining. But what region of the cranium shall be trephined? If the trephining is done on the side of the hemorrhage, the patient is subjected to many dangers. In the first place, there is the great risk of augmenting the hemorrhage. Pierre Marie therefore proposed decompressive trephining on the side of the sound hemisphere. The advantages are evident: (1) the influence of operative traumatism on the focus of the hemorrhage is reduced to the minimum; (2) there is no fear that the hemorrhagic focus will bleed in the meninges, since the bony wall is intact next to it; (3) decompression of the healthy hemisphere is made as quickly as possible. Pierre Marie does not propose to operate in every case of cerebral hemorrhage. Age is a contra-indication, for among the old bronchopulmonary complications make the prognosis dubious. A very pronounced albuminary syndrome is also a contra-indication. It is preferable to operate on patients before their temperature rises, for then secondary infections may play an injurious rôle. When the coma is complete, from the first hours, it is to be feared that on account of the enormous quantity of blood which has escaped or the extent of the focus toward the base of the brain, decompressive operation will be ineffective. All these considerations apply equally to certain forms of massive softening in the sylvian tract, which, by an intense inflammatory edema in the softened hemisphere, produces pronounced compression of the sound hemisphere.

Care of the New-Born.—On the second day, after both mother and infant have had a good rest, let the baby take the breast once or, at most, twice, so that he can get some colostrum, which by this time will be present in larger quantities in the breasts, so as to clean out his bowels of meconium. If he cries much give him water, as much as he wants. On the third day have him nurse three times, four on the fourth day, and from the fifth day on feed him every four hours in daytime, but never at night, thus giving him five feedings daily, usually at 6 and 10 a. m. and at 2, 6, and 10 p. m. If he sleeps, never allow him to be awakened, but you will be surprised to see how soon the little ones get accustomed to this regime and how well they know when it is time for nursing. Try this regime once yourselves; observe the rested condition of the mothers after they have had a full night's rest every night from the time the baby is born; note how they have a plentiful supply of good milk without resorting to any specially disagreeable and nauseating diet consisting of over-large amounts of liquids which are supposed to produce milk, while as a matter of fact, they do not, but rather prevent it (and let me here add that I allow my puerperae to eat anything they want after they have had their first refreshing sleep, and that I do no longer place any restrictions on their diet, as long as they are getting sufficient nourishment and keep in good health); observe also the good condition of the babies, how quietly they sleep and the look of contentment on their faces; try it only once and I am sure you will become as enthusiastic adherents of this method as I am myself.—Carl G. Leo-Wolf, M.D., in *New York State Jour. Med.*

Journalistic Suggestions for Medical Writers.—Eliot in the *Pennsylvania Medical Journal* discusses this subject from the point of view of the editor. He says that it is an unfortunate trait of the average man to desire to see his name in print, but it is hard to convince some writers that their productions are excellent from a literary point of view but useless from that of editorial policy. He says that many carefully prepared papers sent to journals on account of their large circulation rather than the adaptability of the paper to the journal are returned as unavailable, to the great disappointment of the author. If he is reasonable, however, he will ask himself whether the paper was such as to hold the attention of the general reader, and will also remember that he is not paying for the printing. Eliot then calls attention to some things which the author of a paper should keep in mind in preparing his manuscript. He should have some system and should divide his subject into headings, placing all the ideas under each heading which properly belong to it. The reader does not care for the author's titles and appointments, but is interested only in what he has to say, and expects him to say it in the fewest possible words. Illustrations, temperature charts, etc., should always be on separate sheets, and illustrations should illustrate and not show instruments, apparatus or forms of disease of common use or of daily observation. The paper should be sent to one journal only. The title should express the subject; the shorter it is, the better. Introductions are seldom of any value except as pieces of vanity on the part of the writer. An apology for a paper is an admission of mediocrity and few will read it. Quotations tend to weaken a paper. A short abstract of the points to which it is desired to make references is better. A long list of references is undesirable. Authors interested in the subject will verify the work from the literature. The names of hospitals, sanatoriums, asylums and homes, or the names of manufacturing houses, should not be given, lest the paper be taken for an advertisement. Long case histories are usually unnecessary; names of consultants, assistants and others are uninteresting. Nobody cares who was present or who assisted, but everybody wants to know the essential points of what was done and how it was done. (It might be added that the disjointed, telegram style of case reports is objectionable.)

The Eyeball-Heart Reflex.—Loeper and Mougeot reported research last year confirming the instructive import of Aschner's reflex, the slowing of the heart-beat when pressure is applied to the eyeballs. In two or three seconds at most, the heart slows up by about 8 beats to the minute, but the former rate returns as soon as the pressure is released. In tabes this reflex seems to be abolished. In some cases the absence of the oculocardiac reflex, as they call it, was the first sign to attract attention to the tabes. The apparently paradoxic tachycardia with abnormally high blood-pressure does not affect this reflex, but this tachycardia warns of impending breakdown of the left heart and calls for digitalis unless it yields to other measures. They explain the mechanism of this tachycardia, saying that the eyeball-heart reflex first threw light on it. They published several communications on the reflex in the *Progrès médical*, 1913, xli, 211, 663 and 675. With a gastric neurosis this reflex is an indication whether the pneumogastric or the vagus is predominantly involved, and this may prove a guide to treatment. In one of the cases reported the patient had an ulcer on the lesser curvature, and the pulse slowed up by 14 beats on pressure of the eyeballs. Three months after resection of the stomach the pressure caused the pulse to drop from 88 to 62, a loss of 26 beats. The pressure on the eyeballs never seemed to do any harm. It exaggerates bradycardia when it is of nervous origin, and may exaggerate arhythmia. With rudimentary exophthalmic goiter and very emotional subjects, with a tendency to "hot flashes" and profuse sweating, pressure on the eyeballs is liable to accelerate the pulse.

War.—From a letter just received from an eye-witness of conditions in the hospitals and among the sick and wounded prisoners in one city in the Balkan Peninsula, the following paragraph is taken: "Coming to the hospital, we found three flights of stairs and landings crowded with some hundred sick and dying on the steps and floors, two rooms with forty beds tightly packed in each, with sick lying in the beds and others sitting on the corners waiting for some to die for their places—calling for water, and no water; calling for help, and no help—all in a state of the most horrible filth, walls and floors likewise, dysentery, typhus, wounds, meningitis, and diseases unknown to me—some puffed out near to bursting, others absolute skeletons; flies, lice and fleas, vermin swarming; one doctor, just arrived, striving to examine the sick, and a few frightened men trying to act as nurses, but needing rather to be nursed themselves. A few drinking-cups in common for all, filthy rags of clothes, and in many cases no blankets; a few sheets, drenched in filth, and death gurgles continuous."—*Am. Red Cross Mag.*, October, 1913.

Race Mixtures.—Dr. Eliot of Harvard spoke recently of the changes immigration has caused. In his youth Dr. Eliot's community was homogeneous. His father's servants, the men who worked his farm, the mechanics, all the servants at Harvard, were Americans, descended from Pilgrim stock. But those Puritans, let us remember, were themselves not at all pure ethnically. There has probably never been since Homer, nor for many thousands of years before him, a pure race of men. The English who supplanted the aboriginal Indians were by no means a pure type; nor were the Dutch, nor the French, nor the Spaniards. Take the Frenchman of to-day. In the North are the descendants of the Belgae, the Walloons and other Kymri; in the East those of Germans and Burgundians; in the West Normans; in the center Celts, who in the epoch when their name arose consisted of foreigners of various origins and of the aborigines; in the South, ancient Aquitanians and Basques. Professor Boas of Columbia has found that where the ratio of race-intermingling is as one to nine there will be, among the more numerous population, only eighteen per thousand in the fourth generation of pure blood; and where two types intermarry with equal freedom, less than one person in ten thousand will be of pure descent—that is, within a century the process of intermixture should be complete.—*Harper's Weekly*, Feb. 7, 1914.

Medicolegal

Liability of Employer for Death of Employee when Anesthetic is Administered by Layman—Duty to Furnish Two Physicians—A Physician Deemed Iincompetent

(Nations vs. Ludington, Wells & Van Schaick Lumber Co. (La.), 63 So. R. 257)

The Supreme Court of Louisiana holds that an award of $8,000 damages should be increased to $10,000, or $5,000 for the widow and $5,000 for the children, for the death of an employee of the defendant whose hand was injured while he was at his work, and who died an hour or so later on the operating-table, while chloroform was being administered to him preparatory to an operation on the injured hand. The court says that the physician was assisted by his wife, who had graduated as a trained nurse, and by the saw-filer of the mill. The latter administered the chloroform. It seemed that it was he who usually performed that task on such occasions at that mill. The physician said that the patient had taken the chloroform and gone under complete anesthesia nicely, and that he had started to wash and clear up the hand, preparatory to the work, when he noticed that the patient had quit breathing, and he sought to restore respiration. The physician gave it as his opinion that the man died from nervous shock and the ordinary effect of chloroform. But the expert evidence showed that the man exhibited none of the symptoms of shock, and the court must conclude that his death was caused by the chloroform.

Was it negligence to allow a layman to administer it? The court does not think there can be any serious question but that allowing a layman to administer the chloroform was the taking of a very great risk, and constituted negligence if it was avoidable. As to that, nothing showed that it was not avoidable in the sense that, rather than take the risk of a layman administering the chloroform, it would have been better not to have performed the operation at all, but simply to assuage the pain by sedatives. But, granting that an operation was necessary, and that the anesthetization was advisable, nothing showed that it was not possible to secure an assistant physician. Half a dozen lived within a couple of miles, and the mashing of a hand, even though more aggravated than was shown to have been the case in the present instance, is not so liable to be promptly fatal as not to allow of time in which to summon a neighborly physician; and temporary relief from pain can be given without danger to life. It was said that an effort was made to summon one of the physicians of the town not two miles distant, but the evidence left no doubt that no serious effort was made, and that the saw-filer was supposed to be entirely competent in the premises.

The man was negligently dealt with. *On whom rested the responsibility? The attending physician* said he demanded an assistant of the assistant superintendent of the mill and of the man himself, but the man himself was in intense pain, and hardly in a position to advise with the physician as to what was, under the circumstances, the best course to pursue. *The responsibility* rested, the court thinks, on the assistant superintendent, who failed to procure an assistant physician, and on the physician who consented to proceed without competent assistance.

A condition of the employment contract at the defendant's mill was that the company should withhold weekly out of the wages of the employees a certain amount to go toward a fund for securing medical aid for the employees in case of need. The company itself contributed no part toward the fund and derived no profit therefrom, save perhaps in the betterment brought about thereby in its labor conditions. Beyond making this weekly contribution, the employees took no part in procuring the medical aid. The company retained that function in its own hands.

This was a business arrangement between the parties; and a part of the company's understanding was to use due care in providing the employee with a competent physician, or with two if need were. The Supreme Court of Missouri has held that the company in such a case must go beyond employing a competent physician; that it "must go further and competently treat the patient." But the weight of authority seems to be that when an employer derives no profit from the retention of the hospital fund from its employees, it is liable only for failure to exercise ordinary care to select, employ and retain a competent physician. This, however, means, of course, that if a case necessitates the services of two physicians, then that due care must be exercised in providing the two. In this case the company clearly failed in its duty to provide this second physician. No effort, or, if any, only a merely perfunctory one, seemed to have been made in that regard. The attending physician "demanded" of the assistant superintendent that it be done, and it was not done.

Furthermore, the attending physician himself was a mere *substitute* for the regular physician, who was off on a *month's* holiday. He was not a registered physician of the state. It was argued that this did not detract from his competency. No, but it added to the defendant's burden of proof in showing his competency; a prima facie case to the contrary having been made out by the result of his work. Except out of his own mouth not a word was in the record as to his competency. From his own testimony the court gathered that his nervous condition was then, or had recently been, such that he had had to give up for a time the practice of his profession at the place where he had last been located. From the fact testified to by him of his having repeatedly changed location, the court gathered that there must have been something detracting from his success. Everything considered, the court does not think this physician was such a one as the plaintiff's husband had the right to be furnished with under the agreement with the defendant company.

Liability of Vendors of Dyed Furs for Injuries to Health

(Gerkin v. Brown & Schler Co. (Mich.), 143 N. W. R. 48)

The Supreme Court of Michigan holds that it may be a question for the jury whether, under given circumstances, a wholesaler is not liable for injuries resulting to a purchaser from a retailer, from wearing a fur-lined coat with a dyed or blended collar which poisons his neck, face and hands, causing him great suffering, and seriously injuring his health. It is a common understanding and a reasonable presumption that a fur coat is a harmless thing, free from suspicion of hidden dangers to any one, and the testimony in this case showed that this is true in fact in all cases in which the fur is not artificially colored; but it was shown that, if the fur is dyed, in certain cases some coats are imminently dangerous to the health of some persons, when used for the purpose for which they are manufactured and sold.

When the fact is once established and demonstrated by experience that a certain commodity apparently harmless contains concealed dangers, and when distributed to the public through the channels of trade and used for the purposes for which it was made and sold is sure to cause suffering to, and injure the health of, some innocent purchaser, even though the percentage of those injured be not large, a duty arises to, and a responsibility rests on, the manufacturer and dealer with knowledge, to the extent, at least, of warning the ignorant consumer or user of the existence of the hidden danger. Failing to do so, the dealer, as well as the manufacturer, who has the knowledge and does not impart it, is liable to a subsequent ignorant purchaser, reasonably within contemplation of the parties to the original sale, for injuries sustained through such hidden dangers. This is by reason of the duty the dealer owes to the public generally, which includes all whom it may concern, to give notice of any concealed dangers in the commodity in which he traffics, and to exercise a reasonable precaution for the protection of others commensurate with the peril involved.

That the great majority of persons are safe from the particular danger concealed in the article sold, or that few injuries in fact result from its use, does not militate against this principle when the certain fact of imminent danger to a percentage is established. Many people are immune from the most virulent contagious diseases, and the percentage of injuries to those ignorantly using defective machinery or dangerous explosives, or unwholesome and dangerously adulterated foods, is small in proportion to the number who ignorantly or knowingly use them; but it could not be contended, for that reason, that the person knowingly renting a house or selling clothing which were infected with small-pox, or selling defective machinery, or tainted meats, or dangerous explosives, without warning, to one ignorant of the danger, and who was injured thereby, might escape liability.

Liability between County and Town for Expenses of Quarantine

(Board of Commissioners of Vance County v. Town of Henderson (N. C.), 79 S. E. R. 442)

The Supreme Court of North Carolina holds that the town was not liable for the amount, nor for any part thereof, paid by the county on account of the maintenance and care of persons afflicted with small-pox, while they were quarantined by the county, during an outbreak of small-pox in the county and town, which latter is in the county, in the years 1911 and 1912. If Section 4508 of the revisal of 1905 ever imposed any liability on a city without a quarantine officer, the legislature intended by Section 21 of Chapter 62 of the Acts of 1911 to establish a new rule of liability for the expenses of quarantining diseased persons and to require that they should be paid by the county which had a quarantine officer, unless the town in that county, in which the expenses were incurred, had appointed a quarantine officer and undertaken for itself, by a system of quarantine, to isolate or segregate persons having contagious and other diseases, which were mentioned in the act, within its corporate limits, or, if possible, to take charge and supervision of the patients at their respective homes.

There is no good reason why the town or city should be charged with the double burden of paying its full lawful share of the county taxes and also the expenses of quarantine within its limits, from which it receives no more benefit or advantage than other sections of the county. But if it is not satisfied with the county system of quarantine, or for any other reason it establishes one of its own, and thus chooses to regulate its own affairs in this respect, it is proper that it should bear the expense and not the county. It is not just that the county should pay the expenses of the city quarantine when it can have no part in fixing or controlling the amount to be incurred or in adopting regulations or methods for the economical administration of the law, and the same rule applies with equal force to the city, when entire control is in the hands of the county authorities.

That Section 21 of Chapter 62 of the Acts of 1911 was repealed by Section 9 of Chapter 181 of the Acts of 1913 was not important in this case, as the county paid the expenses for which it here sued in 1911 and 1912, before the passage of the act of 1913, which should be given prospective operation.

Physicians Entitled to Recover for Treatment of Injured Employee—Term of Service

(Gray v. Lumpkin and Thomas (Tex.), 159 S. W. R. 880)

The Court of Civil Appeals of Texas on this appeal of the defendant, Gray, affirms a judgment against him, in favor of Drs. Lumpkin and Thomas, the plaintiffs, for services rendered to an employee of the defendant Gray, who had his leg broken by a horse falling on it. The court says that an employer as a rule is not, in the absence of an agreement or some stipulation, under legal obligation to furnish medical attendance for an employee who falls sick or is injured while engaged in his duties. Here, however, the defendant at the time proposed to pay the bill for services, if certain physicians were employed. The question was whether Dr. Thomas, of the partnership of Lumpkin and Thomas, was one of the physicians named by the defendant. There was no question raised as to the reasonableness of the charges made for the services and none that the defendant did not authorize one Kerr to employ medical assistance. The only controversy was a quibble whether a letter written by the defendant and sent by Kerr was addressed to two or three physicians, that is, whether it was addressed to Drs. Walker and Johnston, or to Drs. Walker, Johnston, or Thomas. But when life is at stake, or great bodily suffering, demanding immediate relief, an exact adherence to the letter of instruction should not be demanded from the agent or from those dealing with him. Laws are doubtless enacted and should be administered for the welfare of humanity, and in a case of this kind the court feels that the services and skill of the plaintiffs should be compensated when secured under the circumstances here shown.

It appeared from the defendant's testimony that before the employee was discharged from treatment the defendant informed the plaintiffs that he would not pay them, as he had not employed them to treat the injured man. On this proposition the defendant requested the court to charge the jury that they could not allow the plaintiffs for anything after such denial of liability. He did not discharge the plaintiffs from the case, but denied that they were ever in his service. Had they quit the case it would, under the statement of the defendant then made, have amounted to an admission that they were never in his employment. The court does not think that there was error in refusing the requested charge. The jury having found that the plaintiffs were employed to treat the case, that employment continued while the case demanded their services or until they were discharged by the defendant. Where two or more persons enter into a contract of a continuing nature, one of them cannot, by his own act, discharge himself from liability and put an end to the contract, without the consent of the other, unless there is an express power of defeasance reserved in him. If the plaintiffs had undertaken to treat the case under an employment to do so, as found by the jury, they were legally bound to continue until the patient was in condition to be dismissed from further treatment.

Manslaughter in Death from Attempted Abortion

(State v. Harris (Kan.), 136 Pac. R. 264)

The Supreme Court of Kansas holds that an information, alleging the use of a certain instrument to procure the abortion or miscarriage of a woman pregnant with a vitalized embryo, not necessary or medically advised to be necessary to preserve her life, resulting in her death, charges a crime which would be murder at the common law and which is manslaughter in the first degree under Section 12 of the crimes act of Kansas. Although such instrument was used with the assent of the woman for the sole purpose of procuring an abortion or miscarriage, still such use and purpose being immoral, violative of the law of nature, deliberate in character, reckless of life, and necessarily attended with danger to the mother and likely seriously to injure her, if her death result, the common law will imply malice and hold the person so using such instrument guilty of her murder, regardless of whether she was pregnant with a quick child or with a vitalized embryo.

Society Proceedings

COMING MEETINGS

American Medical Association, Atlantic City, June 22-26.

Missouri Valley Medical Association, Lincoln, Neb., Mar. 26-27.

CHICAGO MEDICAL SOCIETY

Regular Meeting, held Jan. 7, 1914

The President, Dr. Charles P. Caldwell, in the Chair

Artificial Pneumothorax in the Treatment of Pulmonary Hemorrhage

Dr. Ethan A. Gray: Instead of the term "artificial pneumothorax," let us say "compression of the lung." Compression applied to a bleeding lung will, in most cases—not all—stop the hemorrhage. When the bleeding point is protected by adhesions against sufficient collapse of the lung substance, compression will not stop the bleeding. When the hemorrhage originates in a thick-walled cavity, the possibility of stopping it by compression is doubtful. In hemorrhagic cases, as well as in non-hemorrhagic cases, the production of a pneumothorax rests chiefly on one factor, a free pleural cavity. Without this there can be no lung compression. Hemorrhages occurring in pneumonoconiotics cannot be treated by lung compression, first, because of the consistency of the anthracotic lung, and, secondly, because of the danger of shutting off some of the already diminished and much-needed aerating lung tissue. Ordinarily, in producing artificial pneumothorax bilateral disease is a contra-indication; the same rule applies here. In far-advanced bilateral conditions, however, antecedent pleurisy with its adhesions has usually already settled the matter for us.

In cases of hemorrhage demanding operation, it is obvious that no great amount of time can be spent in preliminary study of the case. In the non-hemorrhagic cases it is well to have the patient under observation for several weeks until a general decision regarding the operation can be reached. Often a patient presents a bilateral condition which, *per se*, excludes operation. Within thirty days one lung, affected in lesser degree, perhaps, clears up, thus creating a proper condition for the collapse of the cavernous lung. Again, such marked improvement in the local and general condition may be observed after a period of rest that the operation becomes unnecessary, and therefore unjustifiable.

The most important step in the administration of nitrogen in lung compression is to determine the spot where a free pleural cavity may be found. Last spring I reported four cases of hemorrhage treated by compression of the lung. In these four, one patient died of bronchopneumonia, which developed at the time of or somewhat before the compression. Two have had no recurrence of hemorrhage. The fourth patient, after having had three fillings, had no further bleeding. He gained markedly in weight and strength until early in July, when he again began to bleed. The blood loss was large and flooded both lungs. The offending lung was immediately compressed, but bronchopneumonia developed and death occurred in a few days. The results in this case have led me to prolong the compression in subsequent cases. Since then I have used this method in six other cases, with no return of the hemorrhage in four, death from bronchopneumonia in one, and a checking of bleeding in one, with rapid decline.

Lung compression is indicated in severe pulmonary hemorrhage cases and should be made as soon as possible to forestall a fatal bronchopneumonia. It is of no avail once bronchopneumonia has become established. The lung should be kept in compression for at least four months. Aside from the value of compression of the lung as a hemorrhage agent, one cannot underestimate the influence of prolonged rest on the tuberculous process.

Treatment of Tuberculosis by Pneumothorax

Dr. John B. Murphy: There are many things to learn about tuberculosis. We are unsettled as to the location of the primary lesion. Is it a direct inspiratory infection? Is it primarily of gastro-intestinal admission? Is not the skin overlooked entirely as a means of admission of the bacilli into the circulation? All these questions are of prime importance in the management of tuberculosis, and should be settled. When the bacilli are admitted, how do we know that they are arrested? How do we know that a tuberculosis is present? Tubercle bacilli are a late manifestation—often a very late manifestation—of tuberculosis; but we are still in that stage at which the average man is satisfied if he can make a diagnosis on the finding of the tubercle bacillus. The diagnosis of tuberculosis must be made long before bacilli are present in the sputum. On the early diagnosis depends the result of treatment. What rôle can we play in aiding the repair or healing of that tuberculous process? How does repair take place, and what contributes to it? Repair or resistance to tuberculosis consists of (*a*) local and (*b*) constitutional resistance. Tuberculin is one agent we can use. I have been using it since it was introduced to the profession, first in large doses and then in small doses, and finally I came to the "individualization" dose. There is no average dose; there is no common dose; there is a dose for one individual and that individual alone. I become more enthusiastic over treatment by tuberculin every day.

In the local management of tuberculosis of the lung, compression of the lung by artificial pneumothorax is now the dominant treatment all over the world, because it places the diseased lung at rest. When shall we use this treatment? I was shocked a short time ago, in looking over the literature on pneumothorax as a treatment for pulmonary tuberculosis, to read that some of the ablest men suggested it as the treatment for tuberculosis when it had not yielded to other means. The old appendicitis proposition all over again. Why must we wait until there are cavities in the lung? Why must we wait until there are hemorrhages? Why must we wait until a whole lobe of a lung is involved? Use it now. Pneumothorax is a mechanical aid to Nature in the process of cicatrization and encapsulation of a tuberculous focus in the pulmonary tissue.

What are the changes which pneumothorax produces when properly and timely administered? It lowers the temperature rapidly by the rest which is given the focus of infection. It stops the expectoration rapidly. With the expectoration and the absorption stopped, of which the temperature elevation is a manifestation, the patient's general condition improves and he takes on weight. There are less likely to be recurrent hemorrhages.

DISCUSSION

Dr. John Ritter: We need social help in the treatment and cure of tuberculosis. The medical aspect alone will not help us out sufficiently to arrest the tuberculous process; consequently the social question must be taken into consideration. The old tuberculin is good when used for diagnostic purposes, but for therapy it should not be used. I use tuberculin quite extensively, and follow Wright's method. When I get to the point at which a patient is doing well, I remain there. The early diagnosis of tuberculosis as described in the text-books is misleading. When the text-book description is positive, the condition will long have passed the incipient stage. There is undoubtedly a so-called preincipient stage, before there are any physical findings in the chest. It is then that a diagnosis should be made.

Before we advocate the use of anything for the treatment of pulmonary hemorrhage, we must ascertain if the hemorrhage is really pulmonary. Pulmonary hemorrhage may be the initial sign of tuberculosis, or it may be the terminal stage of a pulmonary condition. I think that the percentage of cases that can be treated with pneumothorax is very small. Then, again, the percentage of patients who will retain gas—into whom we can get the gas—is very small. The percentage of those that are really benefited, producing arrest in the process, is again small, so that the percentage of patients that are really benefited by the treatment is meager. It will never be a means of treatment in a great many cases of pulmonary tuberculosis.

DR. CLARENCE L. WHEATON: The induction of artificial pneumothorax is an epoch in the history of tuberculosis. I regard it as a discovery of as great practical value as the discovery of the specific organism. The cessation of hemorrhage and of cough, the diminution of temperature and the general sense of well being mark practically all of these cases. If we can succeed in obtaining a serum possessing antitoxin properties which might neutralize even slightly some of the secondary phenomena of tuberculous infection we shall be near the goal of the greatest scientific achievement.

DR. W. B. METCALF: We have not fully appreciated the value of tuberculin as a diagnostic agent, and we have been slow to recognize the value of artificial pneumothorax as an agent in the treatment of tuberculosis. I should like to ask Dr. Murphy if, in cases in which both lungs are infected, he would think it a good plan to inject first one side, and after a period of time the other side? Injection of normal salt solution into the pleural sinus in cases in which there have been recent adhesions has been advocated by some authorities, for the purpose of opening the pleura sufficiently to allow the inflation with nitrogen. I should like to know if Dr. Murphy thinks this is a good policy.

DR. ETHAN A. GRAY: I do not consider that the percentage of cases to be treated by pneumothorax is limited. If you wait a long time, it is limited, but it is not right to wait. I think that Dr. Murphy put it very well—it is the old appendicitis proposition over again. I prefer to make my diagnosis, if I can, long before I find the bacilli.

DR. JOHN B. MURPHY: I have had only a small number of bilateral cases, and I am not in a position to give an opinion on the value of the treatment in these cases. In my original paper I suggested that it be used in the single lobe cases. I was taken to task, however, for that, and it was said that the bilateral cases did remarkably well. Therefore I feel that the opinion of men who have had a larger number of these cases should be accepted rather than mine.

NEW YORK ACADEMY OF MEDICINE

Meeting held Jan. 15, 1914

The President, DR. WILLIAM H. POLK, in the Chair

Intestinal Stasis

DR. JAMES T. CASE, Battle Creek, Mich.: In every instance in which roentgenoscopy has been made following a short circuiting operation, I have observed retrograde peristalsis in the colon. In many of these cases there was also a reflux of colonic contents through the anastomotic opening into the small intestine, and the resulting stasis converted the terminal ileum into a veritable colon of indefinite length. In some cases the terminal ileum was found to have a caliber of the colon itself, so that it was not easy to differentiate ileum from colon. There is another class of cases in which ileal stasis has existed and no adhesions have been found. A study of these cases leads to the conclusion that a large proportion of ileal stasis is due, not to kinking or adhesions of the terminal ileum, but to incompetency of the ileocolic valve, or to spasm of the ileocecal sphincteric mechanism, or to a combination of these two factors. Certain striking cases have supported the idea that normal ileal stasis is increased in all conditions leading to spasm, probably most marked in acute appendicitis, and less marked in chronic appendicitis. My observations give confirmation to the belief that the normal ileocecal valve is thoroughly competent. Without exception, when the ileocecal valve has been found incompetent to the enema on one occasion, it has been found incompetent at all subsequent observations. In more than fifty cases we have definitely proved the regurgitation of ingested bismuth from the colon back into the ileum, no new bismuth meal having been taken in the interim. In every instance in which the ileocecal valve proved incompetent to the enema, at operation the surgeon found gas or fluid distention of the terminal ileum in spite of thorough efforts at preoperative bowel cleansing. The incompetency has been cured in a number of cases by a simple surgical procedure, consisting in the placing of several sutures in such a manner as to restore the invagination of the bowel without narrowing its lumen. The operation is practically bloodless, does not involve opening the peritoneum, and is quickly accomplished.

Roentgenoscopy in Gastric and Duodenal Diagnosis

DR. ARIAL W. GEORGE, Boston: The greatest value in the Roentgen diagnosis of gastro-intestinal diseases is the possibility of classifying the cases into medical and surgical. If one relies on the Roentgen-ray evidence alone a considerable number of acute, simple peptic ulcers will be overlooked. I am convinced that six hour gastric stasis is the least important factor in Roentgen bismuth diagnosis. The presence of gastric spasm is one of the most potent sources with which one has to contend; it may be due to gastric or duodenal ulcer, gall-bladder disease, appendicitis, renal calculus, diseases of the nervous system, chronic morphin and nicotin intoxications, the vague clinical symptom complex known as vagotonus, and other causes. The positive diagnosis of acute, simple, peptic ulcer is frequently impossible. With chronic gastric ulcers the situation is different; here there is the presence of scar tissue, or considerable erosion and penetration, and the bismuth line shows excrescences, outpocketings, niches and hour-glass contractions. Usually repeated examinations will clear up the diagnosis. The evidence of perigastric adhesions is usually best obtained by fluoroscopic examinations, and this method is of value in chronic ulcers in the cardiac or median portions of the stomach. By means of plates taken in the lateral position, views may be obtained of the anterior and posterior walls of the stomach, and a lesion detected that cannot be observed in any other way.

As yet we have failed to find a single case of gumma of the stomach. Cancer patients are often made so comfortable by medical means, under a mistaken diagnosis, that they easily pass far beyond the operative stage. We must try to make a diagnosis of cancer before one can be made by clinical methods, if the patient is to have the advantage of early and radical operation. In the bismuth Roentgen method we have a positive aid, especially in that large number of cases in which the carcinoma is situated in the fundus of the stomach. It is possible to demonstrate on the negative a cancer as small as an average ulcer would be. The normal condition of the duodenum can be detected in every normal individual and the presence on the plate of a constant defect in the cap of the duodenum means a real pathologic condition. No patient with duodenal ulcer should be operated on unless the bismuth examination shows a definite, constant deformity of the "bishop's cap." In this connection the negative diagnosis is as valuable as the positive; every patient in whom a normal duodenal cap can be demonstrated has no indurated or surgical ulcer of the first portion of the duodenum. Adhesions resulting from repeated infections of the gall-bladder can frequently be detected by their attachments to the antrum of the stomach, the first or second portions of the duodenum, the hepatic flexure or the transverse colon. Occasionally, but not often, the shadow of an enlarged bladder can be seen, but not often enough to warrant a positive diagnosis.

DISCUSSION

DR. WILLIAM H. STEWART: It seems to me that the end of exploratory laparotomy is at hand. The Roentgen diagnosis is only one of the means toward reaching conclusions. It should always be combined with the clinical findings and laboratory reports; this is particularly true of diseases of the gastro-intestinal tract. While I believe in the direct positive method in acute peptic ulcers, or erosions of the stomach, one must be guided by the symptom complex if one hopes to make a correct diagnosis; in chronic ulcerations one is not confronted by difficulties so great, since here one can obtain direct ocular evidence. Too much importance cannot be laid on the necessity for the earlier use of the Roentgen ray in the diagnosis of carcinoma. Hypermotility, when not caused by carcinoma of the fundus, or achylia gastrica, or chronic gastritis, associated with actual persistent deformities in the bulbus duodeni, make the diagnosis comparatively easy and should be more readily taken advantage of by clinicians in any questionable case.

There seems to be considerable difference of opinion as to when ileal stasis is present. Some writers assert that no case is one of ileal stasis unless the bismuth meal is retained in the ileum at least twenty-four hours. It is my belief, however, that no hard-and-fast rule can be made, as it depends in a great measure on the amount of obstruction. As a matter of fact, the important point to be cleared up is what is causing the retention. Chronic appendicitis with accompanying adhesions is, in my experience, the most common cause of ileal stasis. Competent roentgenologists have now reached the goal where they can demonstrate a patent appendix and ascertain whether or not these accompanying adhesions are causing an obstruction of the ileum.

Dr. Lewis Gregory Cole: In 1903 I detected my first case of ileocecal insufficiency, and I believe that this is the greatest cause of ileal stasis.

Dr. Albert Charles Geyser: I have not been convinced of the seriousness of insufficiency of the ileocecal valve. The very fact that 10 per cent. of all valves examined are defective leads one to take rather an optimistic view of it. Other things being equal, I can see a conservativeness in such a weakness, and it may act occasionally as a real safety-valve.

Dr. Anthony Bassler: The point made by Dr. Case that these kinks and bands but rarely have to do with actual stasis, is an important one for surgeons to remember. In my experience the so-called ileal kinks are a most common finding and yet they but seldom cause stasis mechanically. To the theory of ileal stasis being caused by incompetency of the ileocecal valve, I would add that of primary toxemia in the alimentary canal, wherein the stasis is caused by degeneration in the sympathetic nerves and ganglionic cells. In this way the nerve balance of tonus is interfered with so that deficient motility and some degree of dilatation with attenuation of the intestine is responsible for the delay in transit of its contents. I believe that one cannot make a diagnosis of gastric or duodenal ulcer along such lines as rapid emptying of the stomach, reverse peristalsis, etc. The safe way of diagnosing these conditions is along the lines of pitting, diverticula or filling defects. Recently a well-known roentgenologist and a serious worker featured the diagnosis of gastric and duodenal ulcer along the lines of stasis in the stomach. In 120 cases of proved duodenal ulcer, stasis was observed by me in thirty-five, making 28 per cent. From the Mayo clinic, Dr. Eusterman has just reported 776 cases of duodenal ulcer, also proved by operation, with stasis present in only 26 per cent. In my experience, stasis is present in gastric ulcer in 34 per cent., whereas in 324 cases in the Mayo clinic it was present in only 29 per cent. It is important to state that in the cases in the Mayo clinic and in my own the diagnosis of stasis was made by the test meals, the only sure way of doing it. Therefore, one set of men feature the diagnosis on the basis of rapid exiting, and another by delay in exit, whereas the truth is that neither one is characteristic of ulcer, although either one may be present.

NATIONAL CONFERENCE ON RACE BETTERMENT

Held at Battle Creek, Mich., Jan. 8-12, 1914

(Continued from page 484)

The New Human Race

Dr. J. H. Kellogg, Battle Creek, Mich.: Man has improved every useful creature and every useful plant with which he has come in contact, with the exception of his own species. Why talk about a new race when the average length of human life has doubled within a couple of centuries, and when greater progress in the arts and sciences has been made within a century than within all the previous centuries of human history? The upward trend relates exclusively to art, science, ethics and other matters pertaining to the intellectual and social life of the race. Racial and national pride naturally lead us to believe that the race is advancing.

The fact that the average length of human life has more than doubled in the last two hundred years has been accepted as conclusive evidence that the vital stamina of the race is improving. Notwithstanding, this progress may be more apparent than real and permanent. Our birth-rate is steadily declining. Of twenty million schoolchildren in this country not less than 75 per cent. need attention for physical defects which are prejudicial to health. Insanity and idiocy are increasing. Diseases of vice, the most insidious enemy of this and future generations, are spreading rapidly, according to medical men. We have lacked the moral courage to recognize and fight this scourge. Alcohol and drug habits are constantly adding new victims. Suicides are increasing and now reach the enormous total of about 15,000 annually. The important organs of the body are wearing out too soon. The death-rate from the degenerative diseases of the heart, blood-vessels and kidneys, including apoplexy, has increased over 100 per cent. since 1880. These diseases claim over 350,000 lives annually. Fully 60 per cent. of these deaths are preventable or postponable, if the disease is discovered in time. Periodic health examination would detect these chronic diseases in time to check or cure them. The annual loss from pneumonia aggregates 135,000 lives, a large portion of which is due to weakened bodily resistance from degenerative affections. Cancer claims 75,000 lives annually, and is increasing. Pellagra is increasing rapidly in our Southern states. Over 150,000 Americans are destroyed annually by tuberculosis. We know how to prevent it, but our taxpayers object to the expense and leave the battle almost wholly to charity. Over 25,000 Americans are still sacrificed to the preventable filth disease, typhoid fever.

Opinions are divided as to the causes of race degeneracy. There are two great causes, heredity and environment. It may be impossible to say which is the more active. The results of recent researches, however, seem to indicate that the influence of environment may be much greater than some have supposed. The blighting influence of syphilis, alcohol, tobacco and other drugs, gluttony, sensuality and other vices cannot be questioned. We need not return to savagery to be healthy, but we must see that the air we breathe is clean, that the food we eat is wholesome and that the water we drink is pure. We must cultivate clean blood instead of blue blood. Society must establish laws and sanctions which will check the multiplication of the unfit. Eugenics and euthenics must become dominant matters of study and concern. The beginnings of chronic diseases should be detected and arrested.

Every board of health and official health agency should be actively engaged in the battle against disease and degeneracy. This work should not be left to individual initiative. The establishment of a national department of health will provide a central bureau by which to unify the work.

Some Efficient Causes of Crime

R. B. von Kleinsmid, Jeffersonville, Ind.: The conflicting conclusions heretofore reached in criminology are: 1. To a greater or less extent, every man is guilty of crimes, and his detection, conviction and sentence avoided only because of concomitant circumstances. 2. All criminals are vicious men, and consequently it is the duty of society to hunt them out, wherever they may be found, in order to mete out to them that degree of punishment appointed by legislation for the particular crime committed. 3. Transgressors of the law would be few, if any, except for a peculiar and contaminating social environment. 4. All criminals are defectives; no man of normal mental and physical status commits a crime. Until recently criminology was regarded as a legal science exclusively. Now there are indications that there are many who believe it to be purely a social science. Then there are those who insist that it has its origin in medicine and psychology.

Any one who has labored among those convicted of crime is impressed with the fact that they are beings of retrograde type. Responsibility for crime in the manifestly subnormal is quite out of the question; these will always be mere children and require a guardian. Crime is more than a mere accompaniment of defective mind. It is the natural outgrowth of faulty mental processes. This doubtless accounts for the fact that punishment cannot cure the criminal or even deter others from committing crimes. Treatment, not punishment, is needed.

Sterilization

MR. H. M. LAUGHLIN, Cold Spring Harbor, N. Y.: There are two sides to the problem of the treatment of criminals—the constructive, which has to do with the bettering of the two levels of humanity, and the negative, which has to do with cutting off the degenerate ones. Many remedies have been proposed for effecting the betterment of humanity by eliminating its lower levels. Segregation alone is not sufficient, and sterilization must come to its aid.

Uncinariasis

DR. LILLIAN SOUTH, Bowling Green, Ky.: The hookworm is found in every country in the world which lies between 30° north and 36° south latitude. Hookworm disease simulates consumption, and often these patients are treated for tuberculosis for years. Kentucky ranks first in the tuberculosis rate because we have so much hookworm disease which is mistaken for tuberculosis. Infection with this disease also retards development, a child of 15 or 16 not reaching the physical development beyond that usually expected in a child of 12. Some cases of pellagra were entirely cured when the patients were relieved of the hookworm. The peculiar skin eruption is one of the symptoms of hookworm disease. Whether there is any connection between the two diseases of pellagra and hookworm is not known, and these cases may have been wrongly diagnosed as pellagra.

Kentucky is spending five millions a year for the education of the children, but the children cannot go to school because of hookworm disease. There are not enough able-bodied men in some of the towns in Kentucky to hold the offices. Hookworm disease is not alone a disease of the poor. The whole thing, in the matter of prevention, is a question of a sanitary water-closet system. The State Board of Health of Kentucky has devised a sanitary water-closet with separate tank arrangement, built of cement, which is fire-proof and does not need to be cleaned out. By the use of these sanitary water-closets it is expected that we shall revolutionize the whole South in combating this disease.

Function of Individual, City, State and Nation in Bringing About Race Betterment

DR. W. A. EVANS, Chicago: 'The individual can contribute toward race betterment by keeping his body in better condition, and by caring for a better machine than is the present average machine. By bringing up the average of capacity in the human machine we shall bring up the average of undertaking by the human machine. We are fairly well equipped for the ordinary work of every day, but the average man is totally unequipped when called on to do work outside of that usual routine—any extraordinary or unusual thing. Therefore, my first suggestion is that the individual shall contribute to the movement for race betterment by maturing and maintaining a better machine than the average, as it at present prevails. My second suggestion is that those who constitute this audience, and that greater audience to which the arms of this audience will in time extend, enlist themselves in those eugenic movements that have as their object the correcting of these errors at the point of origin. It has been suggested that a part of this movement is corrective in character—that a part of it has to do with that part of society which is distinctly antisocial, and that measures for control must be legislative in activity, must be administered by government, and must be corrective in character. It was suggested that there is another side to this question, and that is the side of positive eugenics. My suggestion is that you lend your support to this side as well as to the other side.

The constitution of the United States twice refers to the activities of the government in behalf of the welfare of the people. Those references are in the same articles of the constitution in which there is given power to the national government to protect its people against armed invasion. It is there specified that the government shall have the right to maintain armies and navies and do such other acts as are necessary for the protection and the welfare of the people. In the first of these references the inference clearly is that the legislators had in mind acts for the protection of the people against invasion from without. In the second reference there is a broader authority, and it is evident that those who were conferring that authority had something else in mind. In this country we have a machine for the care of those who have developed disease. There are two hundred thousand men and women who are engaged in that work. About a hundred and fifty thousand of them are fairly well trained, technically trained, in the work that they are carrying on. Then there are at least fifty thousand others who are more or less broadly trained, who are doing the work of parts of this curative machine. But we need something more, and that is the machine for doing the work of personal hygiene.

My criticism of the work of city, state and national health agencies is that they are in reality departments of ill health, and they contribute but indirectly to the question of health, to the promotion of human efficiency. They contribute but indirectly to race betterment. They contribute but indirectly to the purifying of the stream. My suggestion is that they gain something more of vision; that they broaden out, and that they see man in the large; that they see society in the large.

MISS M. E. BINGHAM, Rochester N. Y.: Rochester has just adopted a new point of view regarding municipal responsibility. Premature death, unnecessary inefficiency and sickness are due to ignorance. It is the function of the city to place within the reach of every person the necessary knowledge. People have derived their knowledge about these things in a haphazard way, from hearsay, from newspapers and magazines. In Rochester the Woman's Educational and Industrial Union sent a petition signed by three thousand taxpayers to the board of education, asking that instruction be given in physiology, hygiene, nursing, dietetics and things of that description, and the board of education has agreed to do this. There will be a course extending over twelve weeks, two lessons of one hour each a week, one by a doctor, and one by a nurse, and in this course there will be taught physiology, the care of the child, hygiene, psychology of adolescence, first aid, emergency work, causes of disease, prevention and research of disease, rational principles in the care of disease, household and civic hygiene, and motherhood. If the women of Rochester appreciate this course by attending, the work is to be enlarged.

History of the National Board of Health

DR. STEPHEN SMITH, New York: The idea of a national board of health began as early as 1866, in the American Public Health Association. The idea naturally grew of having not only a municipal authority and a state authority, but also a national authority. The first suggestion was made by the health officer of the city of Washington, who was prominent in the first movement to organize a national board of health. The first obstacle was the states' rights idea. There was a disposition on the part of the members of Congress to oppose the creation of a board of health that would interfere with the state and municipal authorities. Their conception of the board was altogether wrong in that respect. It was not intended to interfere with the affairs of the states and cities any further than the national government now interferes.

Not much headway was made for several years, but when the great epidemic of yellow fever in 1878 made its appearance, and its devastations were so great that neither municipal boards nor state boards of the South could control it, there was a call for general aid, not from the government, but from voluntary organizations. A Mrs. Thompson of New York contributed a very large sum to what was then known as the Marine-Hospital Service, the head of which at that time was Dr. Woodworth. This fund was used to relieve distress and promote efforts to control the epidemic. A commission was sent south after the epidemic had subsided to study the question of yellow fever and its prevention. Mrs. Thompson provided that the commission should find the cause, if possible. The idea developed that there was need of more thorough quarantine in preventing the admission of yellow fever.

The first bill was introduced into Congress in 1879. I drew the bill after the plan of the Department of Agriculture, which was then comparatively new. It fitted exactly the ideal that we had of what a national board should be. We wanted a minister or secretary of health, who should be a member of the cabinet. We planned that the organization should take the form of the Department of Agriculture in the general work of promoting public health and coordinating, as far as possible, all of the energies of the country to prevent epidemics coming into the country. This bill was introduced into the Senate, but it went into the pigeonhole of some committee and never appeared again.

Toward the close of that epidemic the feeling in the South became very much changed in regard to a national organization. They found that they had to call on the country at large for help, and the question arose, Why should not the national government aid us in these extremities? The objection was that it would interfere with states' rights. This gradually subsided under the pressure of the epidemic and its devastations, and in 1879 opinion had become very strong that Congress should take some action. A bill was then drawn up that created a national board of health, but it was drawn in such a way as to be of temporary effect. It was rather a board for investigating the question why there should be a board of health, why should there not be a national department of health. It had some powers of investigation, and it had an appropriation of $50,000 for temporary work. When the question came to vote, it was voted that even this organization should not be allowed to continue more than four years. It was first limited to one year, but finally it was extended to allow it a lifetime of four years for its work.

It made a general investigation of our quarantines, and published a good deal of matter. At the same time the Marine-Hospital Service, headed by Dr. Woodworth, began to raise the question, Why should not the Marine-Hospital Service govern these quarantines? The Secretary of the Treasury, in 1880, recommended that the powers of the Marine-Hospital Service should be extended to include the quarantines. That was the first inroad that was made in favor of a national authority governing quarantines, and it has gone so far that they are now largely under the management of the United States Public Health Service. After the first year the fear of yellow fever subsided, and the old objections began to be revived. In 1882 the question arose as to the funds that were being used by the national board, Why should that not be turned over to the Marine-Hospital Service, that was now doing a good deal of sanitary work? Under the direction of President Arthur it was turned over to the Marine-Hospital Service. This deprived the national board of all means of doing anything; it had the authority to investigate, but no means to carry on investigation, and practically that was the end of the national board. I do not know that that law has ever been repealed; but it remained a national board for years without any power to do anything, and finally lapsed from mere lack of efficiency or ability to do anything. That is the history of the early movements to have a national board of health.

The National Department of Health

DR. HENRY B. FAVILL, Chicago: The American Medical Association has a central council known as the Council on Health and Public Instruction. My official relation to that Council has led to the invitation to me to present this subject. I shall not go into an elaborate argument as to the need of a national department of health. We are all convinced of that. I shall not talk about the details of construction or organization. Those are matters of detail. I am here to present to this conference a statement as to the status of the matter, as to what has been done and what is being done, and what, so far as we know, the prospects are. In the last few years this subject has received attention in a way that would lead one not familiar with the facts to suppose that it was a new proposition. The first mention of a plan of organization of a board of health appeared in the proceedings of the American Medical Association in 1871, following shortly after the organization of state boards of health in Massachusetts and California. The proposal first took the form of a voluntary council made up of representatives from the various state boards of health. The following year a resolution was adopted by the American Medical Association, asking Congress to establish a national sanitary bureau. In 1873, the President of the American Medical Association stated that a bill for this purpose had recently been introduced into Congress.

In 1874 the question was discussed by the American Medical Association under the title of "Waste of Life," a mere variation from our modern title of conservation of life, in which the subjects which would now be regarded as coming under the conservation idea were considered and the organization of state and national departments of health was urged. During the following year the discussion went on, culminating in the establishment of a national board of health in 1879, the duty of which was to report to Congress a plan for a national health organization. This board did not get anywhere and went out of existence through the failure of Congress to make an appropriation, because the appropriation had been diverted into other channels.

In 1886 a bill was introduced in the House of Representatives providing for a bureau of health. In 1891 a bill was introduced in the lower house providing for a department of health in the Marine-Hospital Service. In 1892 a bill was introduced in the House of Representatives. In 1897 the Springer bill was introduced in the Senate. None of these bills went farther than the committee stage.

In 1907, in the session of the American Medical Association, the Committee on Medical Legislation reported that the preliminary draft of a bill creating a national department of health had been drawn up by Dr. Barchfield of Pennsylvania, that the American Association for the Advancement of Science had created a committee of one hundred to consider methods for establishing a national department of health, and that this draft had been turned over to Professor Fisher, in order that it might be redrafted by some legal member of the committee. It was voted that the details of the plan be left to the Committee of One Hundred, to which the association pledged its support.

From this time on the effort of the American Medical Association has not exactly merged, but has been strongly coordinated with the efforts of a civic nature, of which Professor Fisher has been the exponent. There was no further agitation on the subject until Feb. 10, 1910, when the first Owen bill was introduced in the Senate, providing for a department of public health under a secretary of public health. This bill assembled the different bureaus in the government instead of creating a new department. It was given jurisdiction over all things relating to human and animal life. It was referred to the Senate Committee on Public Health and National Quarantine, before which it had a large number of hearings, but was never reported on, and died in committee with the expiration of the Sixty-First Congress.

I want to emphasize at this point that the American Medical Association from the beginning has been in favor of a Department of Health with a secretary in the cabinet. There was a time when, by reason of opposition, particularly in the time of President Roosevelt, who was positively opposed to a cabinet officer and to anything except a bureau of health, the American Medical Association agreed to anything which would be a beginning in this great movement. But that plan never having gone through, the general trend has been back again to the original idea of a Department of Health with a secretary of health in the cabinet. We are now standing for a Department of Health.

I feel justified in advancing the following propositions as generally accepted: 1. The necessity of some central federal health organization is agreed on by all those familiar with the situation. 2. While recognizing the paramount importance of state activity, owing to our existing form of government, the importance of federal activity cannot be overestimated. 3. The initiative of the present movement is largely due to the American Association for the Advancement of Science, in the organization of its committee of one hundred, which movement has been from the beginning supported and endorsed by the American Medical Association. 4. The American Medical Association is and always has been fully committed by its repeatedly expressed opinion and official reports to the support of a national Department of Health.

While the direct results secured by the efforts of the past forty years may not be entirely gratifying to the friends of this movement, the indirect or reflex effect of the continued agitation for better public health organization has been the stimulation of public health function, both federal and state.

Here is where we are to-day: Following the advent of the present administration and the calling of a special session of Congress last April, a conference was held in Washington, Monday, May 5, 1913, attended by the Council on Health and Public Instruction, the special committee on national health of the American Medical Association, and Professor Fisher, of the Committee of One Hundred of the American Association for the Advancement of Science. After protracted discussion, Professor Fisher formulated a program which was unanimously adopted, which included the following points: 1. A committee should be appointed to see President Wilson the next day, May 6 [which was done], and to communicate to him the result of the conference, requesting him *(a)* to decide on an administrative policy concerning public health legislation; *(b)* recommending that he definitely advocate the establishment of a Department of Health; *(c)* that he cooperate with us in securing a Committee on Public Health in the House of Representatives; *(d)* that he call a White House conference on public health similar to the Governor's Conference on Conservation; the object of this conference to be to promote the success of the President's policy, and if necessary to aid in framing that policy; *(e)* that at the next regular session the President send a special message favoring public health legislation, or else emphasize it in his regular annual message; *(f)* that the President select for the First Assistant Secretary of the Treasury some one interested in public health. 2. We should support the President in securing such public legislation as he decided to recommend.

I call your attention to the fact that the program adopted by the representatives of the American Medical Association and the American Association for the Advancement of Science pledged these two bodies to the support of such public health legislation as President Wilson might see fit to recommend at the next session of Congress. We are justified in believing that when this subject is next taken up in Congress it will be as an administrative measure. I call your attention to the degree to which we have put our interests in the hands of the administration. We have not only referred it to the administration, we have not only asked for a definition of policy, but without knowing what that definition of policy is going to be we have agreed to support that policy. Such a thing as that has hardly ever been done before; and yet I feel that we are perfectly safe in so doing. In the meantime, and in anticipation of such situations as may arise in the administration, the Council of the American Medical Association is going steadily forward in its campaign of public education on health issues, recognizing the fact that an active and intelligent public interest and support is of first necessity in securing the establishment of this department of health, for which the Association has steadfastly stood during its entire existence.

What the United States Public Health Service is Doing for Race Betterment

DR. H. W. AUSTIN, Detroit: I can only mention some of the work of the Public Health Service which relates to race betterment. Broadly speaking, all public health work promotes race betterment. Medical officers of the service are constantly making investigations as to the cause of unusual outbreaks of disease, publishing and distributing the results of their investigations and aiding the authorities in the state or municipality in which the disease occurs in its suppression or eradication. Examples of this are the pellagra investigations in several states, the prevention of malarial fever and hookworm, the investigations of the cause of the various outbreaks of typhoid fever and Rocky Mountain fever, etc. The government has also made extensive examinations of the waters of the Great Lakes and rivers of the United States to determine the amount and character of their pollution. The government is also making complete sanitary surveys of all dairy farms, including the production and transportation of the milk, and microscopic examination of the milk-supply of the large cities. Quarantine stations have been maintained at the large ports of entry by the service. Almost from the beginning of this government it has provided marine hospitals at the large ports of entry, where all American sailors could be cared for. The administration of these hospitals is one of the features of the service.

Some of the features of the service are closely allied to public health and eugenics. The service has established a tuberculosis sanatorium in New Mexico where patients from the United States marine hospitals are sent, and the results of this climatic treatment are most satisfactory.

At the hygienic laboratory in Washington a large number of medical officers are constantly engaged in scientific research work in preventive medicine. The morbidity and mortality statistics collected in various countries throughout the world are published in a bulletin that is distributed freely to all health departments and others interested in public health matters.

The prevention of the immigration of those who are diseased is a difficult but important function. The medical examination of five thousand immigrants in one day at Ellis Island, at New York, to determine whether there are any mentally or physically defective ones among them, is a most difficult task. It requires an expert alienist several weeks in many cases to determine whether a given patient is insane or not. The classification and sifting of those mentally weak is more important. This also requires much more time than is generally believed to be necessary, especially with those whose language and condition in life are entirely different from our own.

The Race Betterment Movement in Women's Colleges

DR. CAROLYN GEISEL, Rome, Ga.: If race betterment is to mean anything, it must begin with education for her who has to do with the race in its infancy. Does a college do it? There are two sorts of colleges in the United States, the coeducational institution, which gives to women the same kind of an education her brothers receive, and the other kind known as the finishing school, the female seminary. In these schools girls learn to dance, gibber French and German, read Greek, Latin and Italian, and paint on china, and do all this after the approved fashion. When she gets back from this school is she prepared for her holy place in life, her place in the world, which is the very root of all race betterment? She is not. Her body is broken. She gives her life, perhaps, for her first child, or else she lives and brings a weakling into the world which soon dies. One out of every two of all the children born dies before fully matured. I have for years cried out for a college that should teach women their own business. In Rome we established a chair of health and home economics in the college for women there, and since then two others have started the movement. One of the objects of this chair is to establish the young woman who comes there in health, so fixed and so definite, and so real, that when she is sent home she will not be the chief support of the doctor. This is accomplished by correcting the diet, by encouraging outdoor life, with physical exercise, and by regulating the dress. We see to it that the habit of self-drugging which prevails so much among the young women in colleges is put away, and do it by the efforts and offices of a resident physician.

It is a woman's business to do what God called her to do—and God called her to motherhood. Teach her to care for her health, and she will bring healthy children into the world.

(To be continued)

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2 *Pericolic Membranes and Lane's Kink. R. B. Williams, U. S. Navy.
3 Pericolitis Sinistra. J. R. Eastman and A. M. Cole, Indianapolis, Ind.
4 Cancer and Precancerous Conditions. W. L. Rodman, Philadelphia.
5 *Localization of Foreign Bodies within Tissues. A. J. Brown, New York.
6 *Pneumococcic Arthritis. K. Bulkley, New York.
7 *Use of Citrate Solutions in Prevention of Peritoneal Adhesions. S. Pope, San Francisco.
8 Gall-Stones and Other Calculi Among Laborers in Panama Canal Zone. H. C. Clark, Ancon, C. Z.
9 Interscapulothoracic Amputation of Shoulder with Complete Excision of Clavicle. A. E. Rockey, Portland, Ore.

2. **Pericolic Membranous Films and Bands.**—It seems to Pilcher as if sufficient clinical observation had now been accumulated to confirm and emphasize the teaching that right-sided pericolic membraniform veils and bands, crippling the peristaltic function of the cecum and ascending colon, are of frequent occurrence, and that when present they form a well-defined surgical condition which always is a menace as to the future, and in many cases has already become the cause of ill health and suffering. Whenever, therefore, the abdomen is opened for the relief of conditions involving right-sided symptoms, Pilcher advises that the operation should be so planned as to make it possible to explore for their presence and do whatever is necessary for their removal.

5. **Foreign Bodies within Tissues.**—In the method advocated by Brown a preliminary roentgenographic examination for the purpose of substantiating the diagnosis is made and the approximate position of the foreign body noted. The area of skin over the foreign body and a surrounding area of a few inches is then prepared in the following manner: Vertical and horizontal lines running at right angles to each other are painted on the skin with silver nitrate solution, thus laying the skin out into squares. The size of the squares can easily be made to bear a proper relation to the size of the foreign body on the one hand and that of the part to be prepared on the other. As a rule, one-inch squares will be found very convenient. The component lines of the checker board thus formed are numbered for the purpose of more easily locating the individual squares. The area thus painted should include one-half the circumference of the part. If the entire circumference is laid out in squares, the lines of one-half the circumference should be solid and those of the other half dotted. The silver solution is allowed to turn black and the skin thus stained. The lines are then painted over with white lead paint and this is allowed to dry.

Two roentgenograms are now taken, one, anteroposteriorly and one, laterally, to show the shadow of the foreign body with relation to the squares painted on the skin. By projecting imaginary lines from the shadow of the body in the two positions with relation to the outlying lines, its approximate depth from the surface is easily calculated. If the entire circumference of the part has been painted, the position of the body is noted accurately by projecting the point of intersection of the shadow with the solid line on one surface to its point of intersection with the dotted line on the opposite surface. If desired, a tracing of the lines and the shadow of the body may be made on a transparent paper and this tracing laid on the skin so that the lines of the squares correspond accurately. The shadow of the foreign body may then be marked on the skin with silver nitrate to be used as a guide at operation. Following the roentgenoscopy the white lead is removed and the part placed at rest until operation.

6. **Pneumococcic Arthritis.**—Bulkley cites one personal case and analyzes 172 cases collected from the literature.

7. **Prevention of Peritoneal Adhesions.**—Seventeen different substances and combinations were used by Pope experimentally to determine their value in the prevention of postoperative abdominal adhesions. It was apparent from the first that citrate of soda—2 per cent.—with hypertonic salt solution—3 per cent.—was the best medium used. It was found that hypertonic solutions remained longer in the abdomen than normal solutions. A hypertonic solution colored with methylene blue gave traces of its presence after forty-eight hours, while normal solutions disappeared in half this time. Two experiments were tried in which citrate solutions were employed after voluntarily severing many small vessels of the intestinal subserosa. No evidence of hemorrhage was found at autopsy one week later. In peritoneal postoperative inflammation, the height of the storm is past in forty-eight hours. The solution is present when most needed. When the insulted, traumatized endothelium is pouring out plastic exudate, with a large content of fibrin ferment, it is met by the inhibitory action of citrate of soda.

To test the toxicity of citrates and oxalates five grains each in one-half ounce of salt solution were injected intravenously in two rabbits. It had no apparent effect on these animals. It is not assumed by Pope that citrate solutions will prevent adhesions where large denuded areas of the peritoneum are exposed. These, he says, should be treated by omental grafts or mesenteric plication. It is not suggested that large quantities of solution be left in the abdominal cavity, although in the absence of pus it probably is not detrimental to do so, but that the usual operating-room solutions of normal salt have added to them a 1 or 2 per cent. of citrate of soda.

Arkansas Medical Society Journal, Little Rock

January, X, No. 8, pp. 193-217

10 Morbidity Reports: Their Importance to Local Health Officer and His Work. J. W. Trask, Washington, D. C.
11 Farmer's View of Sanitation. A. D. McNair, Little Rock.
12 Why Schoolchildren Should Be Vaccinated. O. L. Williamson, Marianna.
13 Flies as Carriers of Lamblia Spores—Contamination of Food with Human Excreta. C. W. Stiles and W. S. Keister, Washington, D. C.

Boston Medical and Surgical Journal

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15 Progress in Diagnosis and Treatment of Syphilis. J. H. Cunningham, Boston.
16 Case for Radium Therapy. S. Delano, Boston.
17 Cancer. S. W. Little, Rochester, N. Y.

14. **Duodenum Ulcer Following Operation.**—In an investigation of the results following operation by Mayo on 600 cases of ulcer of the stomach and duodenum in which the history subsequent to the operation was ascertained, Graham found that 81 per cent. were so relieved as to be considered cured and 10 per cent. were markedly benefited, that is, 91 per cent. were cured or improved, and 5 per cent. of the remainder were moderately improved. The results in the gastric group were not as good as in the duodenal by 3 or 4 per cent. In a small number of the cases there was a recurrence of the symptoms following relief of some weeks or months; a small number of such have been reoperated on by the Mayos. Also a small number in which the primary operation had been done elsewhere were reoperated.

Gastrojejunostomy was the method of choice in the larger number of cases of duodenal ulcers subjected to operation. If actual obstruction existed to the third and fourth degrees, gastrojejunostomy, when properly performed, gave almost certain relief. The greater the obstruction within the limits the better the results of gastrojejunostomy and the converse holds equally true that those cases with slight obstruction or without obstruction furnish the highest number of failures to cure.

Failure to cure and recurrences following operation are divided into two general groups: First, failure of the operation to relieve the stomach of its acid, irritating secretions and inadequate protection of the ulcer itself during the healing period. Second, recurrence of the ulcer following gastrojejunostomy was apparent rather than real, and had its origin in improper suturing in the gastrojejunostomy. This happened in some cases which were most favorable for gastrojejunostomy, even when obstruction to the third or fourth degree existed at the time of the primary operation. Secondary operation showed that there was no recurrence of the original ulcer, but that a new ulcer had formed at the site where the gastrojejunostomy was made, due to heavy silk or linen sutures hanging in the suture line.

Delaware State Medical Journal, Wilmington

December, V, No. 1, pp 1-26

18 Bacterins and Phylacogens. W. H Kraemer, Wilmington

Indiana State Medical Association Journal, Fort Wayne

January, VII, No 1, pp 1-46

19 Progress in Medicine in 1913 C. G Beall, Ft Wayne
20 Surgery and Surgical Literature of 1913 J H Oliver, Indianapolis
21 Progress in Pathology and Bacteriology in 1913 B M Edlavitch, Ft Wayne
22 Important Contributions to Abdominal Surgery and Gynecology during 1913 T B Eastman, Indianapolis
23 Progress of Ophthalmology in 1913 G F. Keiper, Lafayette
24 Interesting Papers in Otolaryngology for 1913 E D Wales, Indianapolis
25 Review of Pediatric Literature of 1913 O N Torian, Indianapolis

Journal of Infectious Diseases, Chicago

January, XIV, No 1, pp 1-215

26 *Transmutations within Streptococcus-Pneumococcus Group E C Rosenow, Chicago
27 Rabies Hydrophobia. J G Cumming, Ann Arbor, Mich.
28 Tumors of Ground Squirrels (Citellus Beecheyi) G W. McCoy, Washington, D C
29 *Antibody Formation in Typhoid V. H Moon, Chicago
30 *Etiology of Acute Rheumatism, Articular and Muscular E C Rosenow, Chicago
31 Indol Production by Bacteria of Colon Typhoid Group I J Kligler, New York.
32 *Studies on Cultivation of Virus of Vaccinia E Steinhardt and R A Lambert, New York
33 Sanitary Significance of Body Cells in Milk R S Breed, New York
34 Preparation of Dried Cultures L A Rogers, Washington, D C
35 *Septic Sore Throat Epidemic in Cortland and Homer, N Y. C E North, B White and O T. Avery, New York
36 Actinomyces-Like Granules in Tonsils D J. Davis, Chicago
37 Comparative Tests of Sputum by Kinyoun and Ellermann-Erlandsen Methods J. L Berry and M A Smeaton, New York
38 *Tubercle Bacilli in Blood J L Berry, New York
39 *Case of Multiple Arthritis Due to Friedlander Bacillus G F. Dick, Chicago
40 Spontaneous Typhoid Like Epidemic Among White Rats A M Pappenheimer and H von Wedel, New York.

26. **Streptococcus-Pneumococcus Transmutations.**—Altogether twenty one strains isolated originally as hemolytic streptococci from a wide range of sources, including erysipelas, scarlet fever, puerperal sepsis, arthritis, tonsillitis, cow's milk, etc., have in one way or another been converted into *S. viridans* by Rosenow; 3 into *S. viridans* and into typical pneumococci, and 1 into *S. mucosus* as well; 1 of these corresponding at one time to the streptococci from rheumatism. Seventeen strains which were isolated as *S. viridans* chiefly from the blood and tonsils in cases of chronic infectious endocarditis and 2 strains from cow's milk have been converted into pneumococci, and 2 of these into *S. mucosus* also; 10 have been made to take on cultural and morphologic characteristics of hemolytic streptococci, in 2 of which the pathogenic powers were shown to be those of hemolytic streptococci; 1 strain was converted into hemolytic streptococcus, into *S viridans,* and into a pneumococcus.

Eleven strains isolated as pneumococci from the sputum, blood and lung in pneumonia, and from empyema and Cole's strains I and II have been made to correspond to hemolytic streptococci; 7 took on the features of *S. viridans;* the streptococci from 3 of these strains by animal passage acquired all the essential features of the streptococci of rheumatism; 2 have been converted into hemolytic streptococcus, the streptococci of rheumatism, *S. viridans,* and back again into pneumococcus Five strains of *S. mucosus* have taken on the cultural features of hemolytic streptococci. Two of these were converted in to *S. viridans.* Five strains of the streptococcus of rheumatism have taken on the features of hemolytic streptococci, 2 of *S. viridans* and 4 have been converted into pneumococci The transformation of some of the strains has been found to be complete by every test known The details of this work are described fully.

29. **Antibody Formation in Typhoid.**—Moon concludes that the protective effect of antityphoid inoculation lasts for a longer period than two years, and that this effect is due not so much to the persistence of antibodies in the blood as to the promptness with which new antibodies are formed in the presence of typhoid proteins

30 **Etiology of Acute Rheumatism.**—Three types of cocci have been obtained by Rosenow from the joints in rheumatism The strains from five cases, in none of which were muscles involved, produced green on blood agar, formed long chains of diplococci and large clumps in broth; when injected into animals they produced a non destructive arthritis, pericarditis and endocarditis The diplococci were distinctly larger and more uniform in size than those of the *S. viridans* In six cases, all of which showed more or less muscular involvement in conjunction with arthritis, the organisms isolated produced a slight but hazy hemolysis on blood agar plates, formed short chains and diplococci in broth, and when injected intravenously in rabbits commonly produced arthritis, endocarditis, some pericarditis, a myositis, and often a most pronounced myocarditis They are the same size as hemolytic streptococci, but the diplococcus arrangement in the chains is more marked.

In three cases, none of which showed symptoms referable to the muscles, the organisms produced small, grayish colonies on blood agar plates without perceptibly affecting the medium They formed clumps of small micrococci and occasionally diplococci and short chains. One of these strains produced arthritis, endocarditis and pericarditis, but no muscle lesions

Rosenow is convinced that these results would seem to explain why different observers have named organisms like these "streptococcus," "diplococcus" or "micrococcus rheumaticus," depending on the particular type with which they happen to be working The virulence of all three types is of a low order. The third group seems to be the least virulent, the first group occupying a middle position, those from cases of muscular and articular rheumatism being the most virulent.

The muscle lesions have been produced in numerous rabbits, dogs and one monkey The character of the lesions was similar in all The affinity for joints, endocardium, and often also myocardium and muscles which characterizes these organisms when first isolated, tends to disappear on cultivation It may be restored by animal passage, and other strains of streptococci under certain conditions may be made to acquire the features of the strains from rheumatism.

Experimental evidence has been produced to show that probable lodgment of organisms in the fine capillaries of the iris occurs in rheumatic iritis. The lesions in the appendix, the diarrhea due to colitis, and the enlargement of the mesenteric lymph nodes observed commonly in animals after intravenous injections of these strains, as well as their isolation from the stool during rheumatism in man, indicate that the organisms may gain entrance through the lymph structures of the intestinal tract. The strains from muscular rheumatism, especially after one or two animal passages, as well as other streptococci when they have attained a similar grade of virulence, show a marked affinity for the mucous membrane of the stomach, the pelvic mucous membrane and medullary portion of the kidney and the gall bladder. Ulcer of the stomach, the picture of an "ascending" nephritis, cholecystitis with beginning formation of gall-stones, caused by streptococci, have been found repeatedly in rabbits and dogs injected with these strains, especially after one or more animal passages

32. **Cultivation of Virus of Vaccinia.**—Steinhardt and Lambert found that the virus of vaccinia incubated in tissue cultures composed of plasma and cornea from normal rabbits and guinea-pigs shows a definite increase, but the degree of multiplication is not comparable to that observed in cultures of rapidly growing bacteria There is no growth of the virus in preparations containing cornea killed by freezing or by hypotonic salt solution. There is no evidence of the growth of the virus in preparations in which pieces of heart, liver or kidney have been substituted for cornea. The virus is

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14 **Duodenum Ulcer Following Operation**—In an investigation of the results following operation by Mayo on 600 cases of ulcer of the stomach and duodenum in which the history subsequent to the operation was ascertained, Graham found that 81 per cent were so relieved as to be considered cured and 10 per cent were markedly benefited, that is, 91 per cent were cured or improved, and 5 per cent of the remainder were moderately improved The results in the gastric group were not as good as in the duodenal by 3 or 4 per cent In a small number of the cases there was a recurrence of the symptoms following relief of some weeks or months, a small number of such have been reoperated on by the Mayos Also a small number in which the primary operation had been done elsewhere were reoperated

Gastrojejunostomy was the method of choice in the larger number of cases of duodenal ulcers subjected to operation If actual obstruction existed to the third and fourth degrees, gastrojejunostomy, when properly performed, gave almost certain relief The greater the obstruction within the limits the better the results of gastrojejunostomy and the converse holds equally true that those cases with slight obstruction or without obstruction furnish the highest number of failures to cure

Failure to cure and recurrences following operation are divided into two general groups First, failure of the operation to relieve the stomach of its acid, irritating secretions and inadequate protection of the ulcer itself during the healing period Second, recurrence of the ulcer following gastrojejunostomy was apparent rather than real, and had its origin year she had five or six attacks of cramps, but none severe enough to confine her to bed. Finally the cramps became rather severe and she was in bed all day previous to the time when the stone passed She had a constant desire to go to stool and her bowels would move slightly. Early the following morning, while at stool, she heard something very solid drop from her bowels and it proved to be a large stone The stone was 2 625 inches in length, 3 5 inches in circumference, and weighed 324 grams The center was composed almost entirely of pure crystalline cholesterin, while the several outer layers were of cholesterin and bilirubin calcium

Northwest Medicine, Seattle

January, VI, No 1, pp 1 30

91 *Plea for Early Operation for Cancer of Lower Lip E H Beckman, Rochester, Minn
92 Some Practical Points in Diagnosis of Active Tuberculosis F M Pottenger, Monrovia Cal
93 *Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax R C Matson Portland Ore
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95 Gynecologic Tuberculosis E M Welty Spokane Wash
96 Emergency Incubator F Chappell, Granite Falls, Wash

91 Abstracted in THE JOURNAL, Oct. 25, 1913, p 1574

93 ***Tuberculosis and Artificial Pneumothorax.***—Sixteen patients have been under treatment by Matson by means of artificial pneumothorax Seventy five inflations have been done He has experienced one gas embolism and one effusion One hopeless case terminated fatally before a pneumothorax could be induced In one case no pleural space could be found Patient's condition the same In 3 patients the treatment was discontinued on account of inability to establish a complete pneumothorax, but all enjoyed improvement Of the remaining 4 under treatment, 2 are uncertain and 2 are improving Of 7 patients in whom a complete pneumothorax could be induced, 3 are apparently well and 5 are making good recoveries

Old Dominion Journal of Medicine and Surgery, Richmond, Va

January, XVIII, No 1, pp 1 61

97 *Clinical Aspect and Medical Management of Arthritis Deformans F Billings Chicago
98 Plea for Frankness in Dealing with Patients J M Northington Boardman, N C
99 What Virginia Is Doing in Fight Against Tuberculosis B L Taliaferro Richmond Va
100 Case of Scarlet Fever in Child Two Weeks Old M P Rucker, Richmond, Va

97 Abstracted in THE JOURNAL, Nov 29, 1913, p 2008

Psychoanalytic Review, Lancaster, Pa

November, I, No 1, pp 1 120

101 Theory of Psychoanalysis C G Jung
102 Psychoanalytic Study and Treatment of Case of Self Mutilation L E Emerson, Boston
103 Blindness as a Wish T H Ames, New York
104 Technic of Psychoanalysis S E Jelliffe New York

Quarterly of Federation of State Medical Boards of United States, Easton, Pa.

January, I, No 2, pp 100 163

105 Study of Medicine Fifty Years Ago and To Day A Vander Veer New York
106 Hospitals as Educational Institutions T Howell, New York
107 Enforcement of Adequate Premedical Requirements and Hospital Year by State Boards for Medical Registration C Frothingham, Boston
108 Preliminary Training for Entrance into Medical Schools K C Babcock, Champaign, Ill
109 Function of Examining Boards A Flexner

Surgery, Gynecology and Obstetrics, Chicago

January, XVIII, No 1, pp 1 144

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111 *Relationship Between Urinary System and Diseases of Female Pelvic Organs J G Clark and F E Keene, Philadelphia
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113 *Postoperative Results of Trachelorrhaphy in Comparison with Those of Amputation of Cervix V N Leonard, Baltimore
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118 Cyst of Omentum V A Funk Vincennes Ind
119 Pneumatic Rupture of Intestine P A Bendixen and J D Blething Davenport Ia
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124 Fractures of Lower Ends of Tibia and Fibula A R Colvin, St Paul Minn
125 *Improved Method of Hemostasis in Shoulder and Hip Joint Amputation W A Norton Savannah Ga
126 *New Diagnostic Sign in Injuries of Abdominal Viscera E B Claybrook Cumberland Md
127 Habitual Recurrent Dislocation of Shoulder T T Thomas, Philadelphia
128 Successful Treatment of Bacillus Coli Communis Infection Complicating Pregnancy E P Davis Philadelphia
129 [illegible] of [illegible] W Babcock Philadelphia
130 Method of Marking Important Fields on Microscopic Slide H H [illegible] Baltimore

111 **Urinary System and Female Pelvic Organs**—Realizing that lesions of the urinary system may occur either as complications or sequels of disease of the female organs the authors [illegible] the importance of determining their exact nature before resorting to an operation which otherwise may be inadequate or even unnecessary Experience in a large number of these cases has taught them that the solution of this problem cannot be gained from dependence on symptoms they can only serve as an indicator which points to the necessity of further investigations Whether it is primary lesion of the kidney or abnormalities of the pelvic organs which react on the bladder the subjective manifestations common to both are often limited to vesical symptoms The relationship of the one to the other can be determined definitely only by a thorough examination of the bladder ureters and kidneys A routine cystoscopic examination in all cases presenting vesical disturbances, irrespective of the coincident pelvic pathology should be the rule, for only by following this precaution can grave errors in diagnosis be avoided

112 Abstracted in THE JOURNAL, June 28, p 2065

113 **Postoperative Results of Trachelorrhaphy**—The presence of a marked endocervicitis is considered by Leonard as a contraindication to the performance of trachelorrhaphy He says that although serious postoperative hemorrhage is not infrequent after amputation of the cervix (5 per cent), this accident is very uncommon after trachelorrhaphy The influence of trachelorrhaphy in improving the general condition of the patient in properly selected cases quite as marked as that of amputation of the cervix In each instance about 90 per cent of the patients report improvement in the general health Although trachelorrhaphy may render a mild endocervicitis more amenable to treatment, it cannot be considered like amputation of the cervix, as a curative measure for this condition Laceration of the cervix is a frequent cause of dysmenorrhea in multiparae, and its removal by either amputation or the cervix or trachelorrhaphy is followed by the disappearance or amelioration of menstrual pain in over 60 per cent of cases Fertility is much more likely to follow trachelorrhaphy than amputation of the cervix

After amputation of the cervix, the incidence of abortion and premature delivery is greatly increased, while trachelorrhaphy has no effect on the course of subsequent pregnancy Labor after amputation of the cervix is usually difficult, while after trachelorrhaphy it is almost always normal Amputation of the cervix is an operation to be avoided in women in the child bearing period until all other therapeutic means have been exhausted Trachelorrhaphy has a therapeutic efficiency, in properly selected cases, quite as high as amputation of the cervix, and, having no influence on the subsequent marital history of the patient, is the operation of choice for women in the child bearing period

116 Abstracted in THE JOURNAL, June 21, p 2024

117 **Tumors of Nerves and Fibroma Molluscum.**—The tumor in this case involved the sciatic nerve and measured 6 inches in length by 3 in diameter and weighed 1 pound and 3 ounces

soon rendered inactive in preparations containing plasma and cornea obtained from an immune animal. The method of tissue cultivation is well adapted for the demonstration of immunity reactions *in vitro*.

35. **Septic Sore Throat Epidemic.**—In the two epidemics of septic sore throat which occurred simultaneously in May, 1913, in Cortland and Homer, N. Y., the two communities being three miles apart, the authors found that over 70 per cent. of the cases in each community occurred among the patrons of a dairyman, who was the only dairyman selling milk in both places, and who supplied less than 7 per cent. of the total milk-supply. Adjacent towns had no cases and, further, they received no milk from the suspected dairy. Physical examination of the cows and microscopic examination of milk sediments showed the existence of acute udder inflammation in two cows in the herd of the suspected dairyman.

Bacteriologic examination showed that cultures from the throats of four patients contained streptococci apparently identical with strains of streptococci obtained from the milk slime from the two cows suffering from garget. Cultures from the throats of eight other patients contained streptococci of this same type, but differing, by slight variations only, in their carbohydrate fermentations. The streptococci isolated from the milk slime from the two garget cows and the throats of four patients in the present epidemic correspond in all respects to strains of streptococci isolated previously from three cows of another herd known to be suffering from garget, and from the milk slime from one cow supposed to be normal, but which gave an abnormal amount of slime.

38. **Tubercle Bacilli in Blood.**—The entirely negative results obtained by Berry by the microscopic examination of fifty-one specimens of blood taken from patients in advanced stages of tuberculosis are in agreement with the experience of a large number of observers. Since organisms morphologically identified with tubercle bacilli are present occasionally in water and elsewhere it is fair to assume that some, at least, of the acid-fast bacilli observed in blood by different investigators were not tubercle bacilli, and where there are no confirmatory animal tests the proportion of specimens containing true tubercle bacilli must remain an open question.

39. **Arthritis Due to Friedländer Bacillus.**—On account of a history of chronic tonsillitis in Dick's case cultures were made from the tonsils. Colonies of *B. mucosus* (Friedländer bacillus) outnumbered all the other colonies on repeated examinations. Several varieties of streptococci were isolated and tested on rabbits in varying doses without producing joint lesions. When injected intravenously the Friedländer bacillus, on the other hand, produced joint lesions in rabbits and dogs in every instance. The organism was very toxic for rabbits. In six rabbits receiving from 1/10 to 1/5 of twenty-four cultures death occurred in from twenty-four to seventy-two hours, and in every case the bacilli were found in smear and cultures from the slight exudate in the joints of the animals, purulent pericarditis was found with bacilli present in the pus.

Kentucky Medical Journal, Bowling Green

January 1, XII, No. 1, pp. 1-56

41 Insects as Transmitters of Disease. J. H. Hendren, Cary.
42 Hypertrophied Tonsils. E. Wilson, Pineville.
43 Differential Diagnosis of Diseases of Eye and Ear Most Commonly Met with by General Practitioner. J. P. Edmonds, Middlesboro.
44 Cesarean Section. E. M. Harrison, Fork Ridge, Tenn.
45 Typhoid and Its Practical Management. T. T. Gibson, Middlesboro.
46 Ductless Glands and Their Relation to Disease. O. P. Nuckols, Pineville.
47 Complications of Typhoid. B. E. Giannini, Straight Creek.
48 Appendicitis; Operable and Non-Operable. T. Ramsey, Pineville.
49 Normal Labor and Its Management. J. G. Foley, Pineville.
50 Malpositions and Diseases of Female Pelvic Organs. C. K. Brashear, Middlesboro.
51 Bacterial Diseases and Their Prevention. G. Schultz, Logmont.
52 End Results of Uncinariasis Dispensaries. O. P. Nuckols, Pineville.
53 Gunshot Wounds of Abdomen. L. L. Robertson, Middlesboro.
54 Examination of Blood in Diagnosis and Prognosis. M. Combs, Pineville.
55 Fracture Suggestions. G. P. Grigsby, Louisville.
56 Uncinariasis. J. S. Fitzhugh, Island.
57 Diagnosis ad Treatment of Knee Lesions in Adult. V. P. Gibney, New York.

January 15, XII, No. 2, pp. 57-92

58 Sex Hygiene Symposium: Various Aspects of Social Evil. H. A. Davidson, Louisville.
59 Idem: Is There a Venereal Menace? H. J. Farbach, Louisville.
60 Idem: Heredity and Its Social Bearings. J. D. Trawick, Louisville.
61 Idem: Medical Ethics and Social Hygiene. J. M. Mathews, Louisville.
62 Cervical Lacerations and Their Relations to Nervous Manifestations. C. C. English, Louisville.

Lancet-Clinic, Cincinnati

January 17, CXI, No. 3, pp. 55-80

63 Deformities of Nasal Septum and Operation for Its Submucous Resection, with Original Incision. H. V. Dutrow, Ancon, C. Z.
64 Medical Ethics and Social Hygiene. H. Cabot, Boston.
65 Some Aspects of Social Hygiene Movement. R. S. Yarros, Chicago.
66 "Non-Mental." Condition of Dementia Praecox as Shown by Abderhalden Reaction and Halvar Lundvall's Remedy. B. Holmes, Chicago.

January 24, CXI, No. 4, pp. 81-128

67 Multiple Hyaloserositis. P. G. Woolley, Cincinnati.
68 *Experimental Production of Gastric Ulcers by Intravenous Injection of Clumped Colon Bacilli. E. C. Steinharter, Cincinnati.
69 Use of Electro-Magnets in Extraction of Metallic Bodies from Trachea and Bronchi, with Report of Cases. S. Iglauer, Cincinnati.

68. **Production of Gastric Ulcers.**—Steinharter investigated the possibility of producing ulcers by injecting clumped colon bacilli intravenously. An active strain of the organism in broth was agglutinated with weak solutions of acetic and hydrochloric acids. When 2 to 4 c.c. of such an emulsion was injected into the ear vein of rabbits the injection was almost uniformly followed by the formation of hemorrhagic gastric erosions or ulcers. The method employed was as follows: The agglutinating reagent, found to clump the strain of colon bacillus employed, was approximately a one-twelfth-normal hydrochloric acid solution. Twenty-four-hour-old broth cultures of the colon bacillus treated with this reagent in the proportion of 2½ c.c. of the broth culture to 1 c.c. of the reagent were incubated for twenty-four hours, and then centrifuged. The sediment was washed twice with normal salt solution and then shaken up with 10 c.c. of fresh saline. The turbid emulsion thus formed was injected intravenously into rabbits.

Medical Record, New York

January 31, LXXXV, No. 5, pp. 185-230

70 Occupational Diseases. W. G. Thompson, New York.
71 Beriberi. V. G. Heiser, Manila.
72 Relation of Experimental Syphilis to Eugenics. H. J. Nichols, U. S. Army.
73 Cases of Amebic Dysentery Treated with Emetine. J. Wagner, New York.
74 Meaning of Dreams. M. Solomon, Chicago.
75 Healy Puzzle Picture and Defective Aliens. M. K. Gwyn, New York.
76 Vegetable Hormone in Cases of Ileus and Gastric Dilatation. D. H. Stewart, New York.
77 Treatment of Deafness with Sonorous Vibrations by Zund-Burguet Method. L. M. Hubby, New York.
78 Clinical Observations of Auscultation at Acromion Process. N. Greenwald, New York.

New Mexico Medical Journal, Las Cruces

January, XI, No. 4, pp. 113-141

79 Treatment of Cholecystitis. J. F. Lilly, Albuquerque.
80 Physician's Duty to Himself. J. H. Wroth, Albuquerque.
81 Otitic Abscesses of Brain. W. T. Salmon, Albuquerque.
82 Pericarditis. J. R. Gilbert, El Paso, Tex.

New York Medical Journal

January 31, XCIX, No. 5, pp. 205-252

83 Neurology at Seventeenth International Congress of Medicine. C. K. Mills, Philadelphia.
84 *Oil-Ether Anesthesia. J. T. Gwathmey, New York.
85 *Large Gall-Stone Passed Per Viam Naturalem. H. J. Novack, Philadelphia.
86 Mental Defectives. H. A. Knox, Ellis Island, N. Y.
87 Foreign Bodies in Appendix. J. W. Kennedy, Philadelphia.
88 Modern Treatment of Chronic Nephritis. R. Hills, New York.
89 Dermatoses Neuroticae. W. P. Cunningham, New York.
90 Testing Urine for Bile Pigments and for Diacetic Acid. J. Rosenbloom, Pittsburgh.

84. Abstracted in THE JOURNAL, Dec. 20, 1913, p. 2274.

85. **Gall-Stone Passed Per Viam Naturalem.**—For ten or eleven years Novack's patient was troubled with constipation and occasional cramps of moderate severity. During the past

year she had five or six attacks of cramps, but none severe enough to confine her to bed. Finally the cramps became rather severe and she was in bed all day previous to the time when the stone passed. She had a constant desire to go to stool and her bowels would move slightly. Early the following morning, while at stool, she heard something very solid drop from her bowels and it proved to be a large stone. The stone was 2.625 inches in length, 3.5 inches in circumference, and weighed 324 grains. The center was composed almost entirely of pure crystalline cholesterin, while the several outer layers were of cholesterin and bilirubin calcium.

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92 Some Practical Points in Diagnosis of Active Tuberculosis. F. M. Pottenger, Monrovia, Cal.
93 *Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax. R. C. Matson, Portland, Ore.
94 Tuberculous Peritonitis. A. C. Behle, Salt Lake City, Utah.
95 Gynecologic Tuberculosis. E. M. Welty, Spokane, Wash.
96 Emergency Incubator. F. Chappell, Granite Falls, Wash.

91. Abstracted in THE JOURNAL, Oct. 25, 1913, p. 1574.

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Old Dominion Journal of Medicine and Surgery, Richmond, Va.

January, XVIII, No. 1, pp. 1-61

97 *Clinical Aspect and Medical Management of Arthritis Deformans. F. Billings, Chicago.
98 Plea for Frankness in Dealing with Patients. J. M. Northington, Boardman, N. C.
99 What Virginia Is Doing in Fight Against Tuberculosis. B. L Taliaferro, Richmond, Va.
100 Case of Scarlet Fever in Child Two Weeks Old. M. P. Rucker, Richmond, Va.

97. Abstracted in THE JOURNAL, Nov. 29, 1913, p. 2008.

Psychoanalytic Review, Lancaster, Pa.

November, I, No. 1, pp. 1-120

101 Theory of Psychoanalysis. C. G. Jung.
102 Psychoanalytic Study and Treatment of Case of Self-Mutilation. L. E. Emerson, Boston.
103 Blindness as a Wish. T. H. Ames, New York.
104 Technic of Psychoanalysis. S. E. Jelliffe, New York

Quarterly of Federation of State Medical Boards of United States, Easton, Pa.

January, I, No. 2, pp. 100-163

105 Study of Medicine Fifty Years Ago and To-Day. A. Vander Veer, New York.
106 Hospitals as Educational Institutions. T. Howell, New York
107 Enforcement of Adequate Premedical Requirements and Hospital Year by State Boards for Medical Registration. C. Frothingham, Boston.
108 Preliminary Training for Entrance into Medical Schools K C. Babcock, Champaign, Ill.
109 Function of Examining Boards. A. Flexner.

Surgery, Gynecology and Obstetrics, Chicago

January, XVIII, No. 1, pp. 1-144

110 Treatment of Diffuse Dilatation of Esophagus by Operation. A. V. S. Lambert, New York.
111 *Relationship Between Urinary System and Diseases of Female Pelvic Organs. J. G. Clark and F. E. Keene, Philadelphia.
112 *Diagnosis and Treatment of Border-Line Pathologic Lesions. J. C. Bloodgood, Baltimore.
113 *Postoperative Results of Trachelorrhaphy in Comparison with Those of Amputation of Cervix. V. N. Leonard, Baltimore.
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116 *Congenital Dislocation of Hip; Rational Method of Treatment. H M. Sherman, San Francisco.
117 *Tumors of Large Nerves Associated with Fibroma Molluscum, with Exhibition of Largest Specimen on Record. N. Kerr, Chicago.
118 Cysts of Omentum. V. A. Funk, Vincennes, Ind.
119 Pneumatic Rupture of Intestine. P. A. Bendixen and J. D. Blything, Davenport, Ia.
120 *Artificial Ureter Made from Abdominal Wall. A. A. Strauss, Chicago
121 Relation of Multiple Adenomas to Etiology of Enlargement of Prostate. J. A. Gardner and B. T. Simpson, Buffalo.
122 *Treatment of Recurrences and Metastases from Carcinoma of Breast. G. E. Pfahler, Philadelphia.
123 Hemostasis in Cranial Surgery. L H. Landon, Philadelphia.
124 Fracture of Lower Ends of Tibia and Fibula. A. R. Colvin, St. Paul, Minn.
125 *Improved Method of Hemostasis in Shoulder- and Hip-Joint Amputations. W. A. Norton, Savannah, Ga.
126 *New Diagnostic Sign in Injuries of Abdominal Viscera. E. B. Claybrook, Cumberland, Md.
127 Habitual or Recurrent Dislocation of Shoulder. T. T. Thomas, Philadelphia.
128 Surgical Treatment of Bacillus Coli Communis Infection Complicating Pregnancy. E. P. Davis, Philadelphia.
129 Recognition of Ureter. W. Babcock, Philadelphia.
130 Method of Marking Important Fields on Microscopic Slide. H: H. Hart, Baltimore.

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112. Abstracted in THE JOURNAL, June 28, p. 2065.

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After amputation of the cervix, the incidence of abortion and premature delivery is greatly increased, while trachelorrhaphy has no effect on the course of subsequent pregnancy. Labor after amputation of the cervix is usually difficult, while after trachelorrhaphy it is almost always normal. Amputation of the cervix is an operation to be avoided in women in the child-bearing period until all other therapeutic means have been exhausted. Trachelorrhaphy has a therapeutic efficiency, in properly selected cases, quite as high as amputation of the cervix, and, having no influence on the subsequent marital history of the patient, is the operation of choice for women in the child-bearing period.

116. Abstracted in THE JOURNAL, June 21, p. 2024.

117. **Tumors of Nerves and Fibroma Molluscum.**—The tumor in this case involved the sciatic nerve and measured 6 inches in length by 3 in diameter and weighed 1 pound and 3 ounces.

120 **Artificial Ureter Made from Abdominal Wall**—The following surgical procedure was carried out experimentally by Strauss An incision was carried from ½ inch below the angle of the twelfth rib in the midaxillary line downward to within 1 inch medianward of the anterior superior spine of the ilium. The muscles were divided down to the transversalis The internal oblique was divided and dissected back as far as its iliolumbar fascial attachment laterally and medianward to the belly of the rectus muscle A tongue shaped flap was now made, which included the transversalis muscle, fascia and peritoneum The peritoneum, fascia and muscle were closed with one suture starting at the superior angle of the pedicle of the flap, and while suturing the pedicle the sutures only penetrated the peritoneum and transversalis fascia The operation is now absolutely extraperitoneal

The ureter was exposed in the region of the flap and the ureteral arteries were tied with fine silk at both the distal and the proximal ends Two or three inches of the ureter were next resected A temporary ligature was placed on the proximal end of the ureter The lower free edge of the flap was picked up and the peritoneum and transversalis fascia separated from the transversalis muscle for about 0 5 cm An end to end anastomosis with the distal end of the ureter was made in such a way that the fascia and peritoneum were slightly within the ureter and the muscle without The proximal end of the ureter was placed on the upper portion of the flap and an end to end anastomosis made by a continuous circular suture Here, however, the peritoneum is not within the lumen of the ureter The edges of the flap were closed to complete the tube, using a continuous over and over suture going upward and crossing this with a suture downward, so as to make a figure X Fine arterial silk was used for the anastomosis and flap closure The temporary ligature was removed and the artificial ureter, as well as the ureter below the anastomosis became distended with urine and the rhythmic ureteral wave passed on over the ureter A fine rubber drain was left in the wound for the first few days to allow for the slight leakage of urine that might occur

At the end of seven months one of the dogs was anesthetized and opened The pedicle of the flap was normally intact The artificial ureter was shortened to about one third its original length so as to draw the ureteral ends nearer together The circumference and lumen of the tube were of the same size as when first constructed The tube as a whole felt hard and non compressible The peritoneum was adherent to it on one side and to the internal oblique on the other Many well defined blood vessels could be seen adjacent and in the adherent tissues The ureter was now divided 3 inches below the distal anastomosis and urine came through in jets in about normal quantity The specimen was removed and an opening made in the ureter about 1 inch above the proximal anastomosis A probe could be passed with ease through the artificial ureter and its anastomoses and also a second smaller probe could be passed alongside of it The hardened artificial ureter was opened with scissors It cut with difficulty Its inner surface appeared smooth and had the appearance of a lining membrane The body of the tube felt hard This, Strauss assumed to be due to infiltration of calcium and urinary salts The anastomoses showed no evidence of contraction or stenosis The kidney showed no changes

122 **Recurrences and Metastases from Cancer of Breast**—Fifteen cases are cited by Pfahler to show that the application of the Roentgen rays will at times cause a disappearance of both small and extensive areas of both recurrent and metastatic carcinoma, that the disease can at times be made to disappear when it covers the greater portion of the chest In at least one case there seemed to be produced some constitutional condition which led to the rapid disappearance of carcinomatous tissue that had not even been exposed to the rays The additional administration of thyroid extract in small doses seems to aid materially in the cure of the disease Pfahler advises that the disease should be treated as actively and with as large doses as circumstances will permit, using any possible means for the protection of the skin Since the above cases prove that extensive recurrent malignant disease can be made to disappear, the best time to treat with the rays is immediately after operation, when least disease is present This postoperative treatment should be thorough and given with the same care that would be used with palpable disease

125 **Hemostasis in Shoulder- and Hip-Joint Amputations**—A 4 inch roller bandage and an Esmarch rubber tourniquet is *all that* is needed by Norton for hemostasis The 4 inch bandage is made into a three or four ply strip 2 yards long and laid on the chest, extending over the shoulder, another similar strip is held over the scapula, the Esmarch tourniquet is applied over these two strips and pinned to each one with safety pins The strips are simply folded back and handed to the nurse, or can be tied under the opposite arm For hip joint amputation an anterior strip of bandage is placed so that the outer border of the bandage touches the anterior superior spine of ilium, and the posterior one is placed so that the inner border of the bandage touches the tuberosity of ischium Pull is exerted so as to keep the Esmarch snug in the crotch and in the groove below the anterior superior spine of the ilium The bandage pulleys are now passed over the shoulder of the other side and handed to the nurse, or, better still, tied securely

126 **Injuries of Abdominal Viscera**—The sign to which Claybrook first called attention in 1904 consists in the transmission of the heart and respiratory sounds, so that they can be heard all over the abdomen almost as well as over the chest The ear is all that is needed to elicit the symptom In the past nine years he looked for this sign, in all cases coming under his care, in which there was the slightest chance of an internal injury After following these cases up closely, he has come to the conclusion that the sign is, when present, a positive indication for immediate laparotomy, whether the other signs present indicate grave trouble or not It is present soon after the reception of the injury, and has been noted as early as a half hour after the reception of the injury It continues in unoperated cases as long as twenty four hours after injury and may last for days Claybrook believes that it is due to the irritation of the parietal peritoneum by the sudden outpouring of foreign material, as bowel content, blood and urine, into the abdominal cavity It is never present in cases of extraperitoneal rupture of the bladder, or in injuries of the abdominal wall, without internal injury He did not find it present in a case of rupture of the liver, in which the rupture was small, and down in the lobus Spigelii with the blood confined by liver, stomach and omentum so that the parietal peritoneum was not flooded In one case of severe bowel injury he failed to find it although the abdomen was full of blood

Claybrook is positive that abdominal rigidity has no bearing on the production of the sign, as he has found it in perfectly soft, flaccid abdomens, as well as in those that were rigid The fluid itself could not be responsible, for it is too little in amount in many cases, and besides fluids do not carry these sounds as well as gas, or the tissues He has found the sign present in cases of ruptured mesentery with hemorrhage, ruptured spleen, ruptured bowel, ruptured liver ruptured tubal pregnancy, and immediately after rupture of an appendix It is not present in postoperative cases The sign is not found in a slowly developing effusion, as in peritonitis or ascites

Tennessee State Medical Association Journal, Nashville

January, VI, No 9, pp 341 372

131 *Brown s Modification of Hodgen s Splint J F Gallagher and W M McCabe Nashville
132 Fractures of Elbow S B Duggan, Eagleville
133 General Practitioner as Specialist H Lockhart, Coalmont
134 Nasal Polypi I A McSwain Paris
135 Plea for Intubation J M Clack, Rockwood

131 Abstracted in The Journal, April 19, p 1248

Vermont Medical Monthly, Burlington

January, XX, No 1, pp 1 26

136 Progress and Problems in Preventive Medicine M J Rosenau Boston

Washington Medical Annals

January, XIII, No. 1, pp. 1-82

137 Dawn of a New Era in Surgery. W. P. Carr, Washington, D. C.
138 [illegible] in Incipient and More Advanced Stages of [illegible] C. A. Pfender, Washington, D. C.
139 [illegible] Cases. W. D. Webb, Washington, D. C.
140 Whole Milk Dilutions in Feeding Normal Infants. J. A. Gannon, Washington, D. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

January, XI, No. 121, pp. 1-48

1 Some Aspects of Small-Pox in Infants and Children. W. Hanna.
2 Nervous Complications of Varicella. R. Miller and J. A. Davidson.
3 Psoriasis in Infancy. H. Davis.

British Medical Journal, London

January 17, I, No. 2768, pp. 125-176

4 *Infection of Children with Bovine Tubercle Bacillus. A. P. Mitchell.
5 *Torn Semilunar Cartilages. W. Robinson.
6 Possible Fallacy in Diagnosis of Internal Derangements of Knee-Joint. S. Mort.
7 *Treatment of Fractures about Elbow-Joint and Knee-Joint. B. Hughes.
8 Use of Ionic Medication in Treatment of Certain Venereal Diseases. R. Connell.
9 Rapid Delivery in Eclampsia. R. Jardine.

4. Infection of Children with Bovine Tubercle Bacillus.—Mitchell investigated seventy-two consecutive unselected cases of tuberculous cervical lymph-nodes in children; of these, thirty-eight resided in Edinburgh and thirty-four came from neighboring country districts (within a radius of 30 miles). Experimental animals were used in every case. Guinea-pigs were inoculated with tuberculous material as soon as possible after receiving it, and the lesions subsequently developing were the immediate source of the cultures. It was found that the spleen and softened caseous lumbar lymph-nodes were the structures that yielded the best growing cultures.

It soon became evident to Mitchell that he had to deal with two distinct groups of tubercle bacilli, one of which far exceeded the other in virulence for the rabbit. The groups he has designated engonic (luxuriant) and dysgonic (sparse). The dysgonic (sparse) group is a very large one and contains sixty-five viruses. All the cultures of this group grow very sparsely or not at all on glycerin egg and are assuredly of the bovine type. The engonic (luxuriant) group grows luxuriantly on glycerin egg in primary cultures and succeeding generations and includes all the cultures of the human type. It is a very small group and contains only seven out of the seventy-two viruses investigated. This division into engonic and dysgonic viruses has corresponded in all cases with the difference in virulence in rabbits.

By his study Mitchell is convinced that cow's milk containing bovine tubercle bacilli is clearly the cause of 90 per cent. of the cases of tuberculous cervical lymph-nodes in infants and children residing in Edinburgh and district, and is responsible for by far the larger proportion of tuberculous cervical lymph-nodes in children during the milk drinking period of life (0 to 5 years). Bovine tuberculosis can, therefore, no longer be considered a negligible factor in respect to the spread of tuberculosis among children, more especially since unsterilized cow's milk in this country is a vehicle by which tubercle bacilli must most frequently be introduced into the bodies of children. Until the proper legislative measures are obtained it is imperatively necessary for the public to sterilize cow's milk for the feeding of children.

Regarding the channels of infection, the faucial tonsils have in tuberculosis of the upper deep cervical lymph-nodes an importance not hitherto well enough recognized or understood —that is, they act not only as most frequent portals of entry for the tubercle bacillus, but in a large proportion of cases a well marked tuberculosis of the upper deep cervical lymph-nodes is secondary to a small tuberculous focus in the tonsil. Mitchell so investigated the hypertrophied faucial tonsils removed from ninety children, in whom the cervical lymph-nodes showed no clinical evidence of tuberculous disease; six (6.5 per cent.) of these hypertrophied tonsils gave histologic evidence of tuberculous disease, while nine (10 per cent.) yielded positive results when inoculated into guinea-pigs. The bovine bacillus was present in three cases, and the human in one case. The high percentage of faucial tonsils in which the bovine virus was present, Mitchell thinks, is further striking proof of the frequency of tuberculous cow's milk as a source of infection.

5. Torn Semilunar Cartilages.—Robinson's method of treatment is as follows: The patient is lying straight with the knee held acutely flexed, or he is in the Trendelenburg position. A tourniquet is applied. The skin is swabbed over with petrol containing ½ per cent. of iodin to remove grease, and then painted with tincture of iodin, after which the joint is wrapped round tightly with four layers of gauze wrung out of a solution containing spirit (70 per cent.) and mercury biniodid (1 in 1,000). A transverse incision is made to extend backward from the inner border of the patellar tendon for 3 inches. Sometimes it is necessary to have a good look round, to use a hook and to rotate the leg, before the lesion is discovered. The wound is closed in three layers, the two deeper always with iodized catgut. The interrupted sutures in the capsule are placed widely apart to allow of transudation of the synovia, which is poured out after the operation, to escape into the tissues outside of the joint and thus prevent the pain which arises from distention of the joint. No drain is inserted. Robinson uses either iodized catgut for the skin incision, or silkworm gut (sometimes intracutaneously), or Michel's clips. The skin is painted again with iodin, and gauze, wool and a bandage is applied. No splint is applied: no sepsis occurs and the results are said to be excellent He reports twenty-two cases of torn internal cartilage and two of the external.

7. Treatment of Fractures of Elbow-Joint and Knee-Joint. —Treatment by full flexion (Jones' method), Hughes claims, applies to all fractures in the neighborhood of the elbow-joint, except fractures of the olecranon process, and most cases of fracture of the head of the radius. In these two latter open operation is preferable—namely, wiring the olecranon and often excision of the head of the radius. Of injuries in the neighborhood of the knee-joint, only those involving separation of the lower epiphysis of the femur and fracture of the shaft in the neighborhood of the condyles not involving the joint are considered. The displacement here is reduced under an anesthetic, and the knee is put in a condition of full flexion and held so for ten days or a fortnight and then is brought down to full extension and put up on a Liston's long splint, with extension below the knee.

Glasgow Medical Journal

January, LXXXI, No. 1, pp. 1-79

10 *Tumors of Bladder: Three Cases Illustrating Points of Interest in Diagnosis and Treatment. D. Newman.
11 Chronic Valvular Disease of Heart. D. MacDonald.
12 Chloroform Anesthesia in Light of Physiologic Research. G. H. Clark.
13 Robert Burns and "Sum Practysis of Medecyne." J. W. Findlay.

10. Tumors of Bladder.—Three cases are reported by Newman: 1. Hematuria of six months' duration, blood at first small in amount, bleedings lasted only for a short time. Afterward hematuria frequent and copious. Pedunculated papilloma fixed to anterior wall; removed through suprapubic incision. No return of hematuria. 2. Hematuria of five months' duration, at first small in quantity and only at end of micturition, which act was sometimes difficult to begin, but was never painful. This was relieved after a portion of tumor came away spontaneously. Simple pedunculated papilloma at base of bladder, removed through suprapubic wound, no return of hematuria. 3. Hematuria during six months, at first small in amount, only occasional, and unaccompanied by other symptoms; later continuous, and accompanied by other symptoms; later continuous, and accompanied by frequent micturition, finally by incontinence, and severe pai

Malignant adenopapilloma occupying almost entire bladder, infiltrating deep structures and surrounding parts Suprapubic cystostomy for drainage Radical operation inadvisable

Journal of Laryngology, Rhinology and Otology, London

January, XXIX, No 1, pp 1 56

14 Extra Maculae in Ampullae of Birds U Pritchard
15 Total Deafness, Associated with Symptom Complex Described by Baranyi in which Complete Restoration of Hearing Occurred R Baranyi
16 Scabbard Trachea and Pulmonary Emphysema Kahler
17 Use of Aids to Hearing and Prostheses in Middle Ear Deafness W S Bryant, New York
18 Pathology of Otosclerosis K H Digby

Lancet, London

January 17, I, No 4716, pp 157 222

19 Progress of Life Assurance Medicine in Past Thirty Years R H Fox
20 Value of Cardiac Sign in Cancer W Gordon
21 Early Diagnosis and Treatment of Ruptured Intestine V Z Cope
22 Question of "Concubitancy" in Cousin Marriages M Yearsley
23 Recurrent Intussusception G G Turner
24 Case of Extra Uterine Pregnancy in Rudimentary Fallopian Tube D Duff
25 Case of Schistosomiasis Japonica H White
26 Acute Leukemia Simulating Caries of Spine H D Rolleston and C H S Frankau

Quarterly Journal of Medicine, London

January, VII, No 26, pp 93 208

27 *Intracranial Serous Effusions of Inflammatory Origin W B Warrington
28 *Experimental Formation of Acute Gastric Ulcers T R Elliott
29 *Bronzed Diabetes J F Gaskell, A F Sladden and Others
30 *Infective Nature of Certain Cases of Splenomegaly and Banti's Disease A G Gibson
31 Pneumopericardium J Cowan, A W Harington and J R Riddell
32 Pituitary Body E Goetsch

27 **Intracranial Serous Effusions**—Warrington summarizes his views as follows The effusion may be the important pathologic fact, and the prognosis and treatment depend on a recognition of this The progress of an inflammatory effusion within the skull may be arrested at the serous stage The primary cause is commonly a near or distant focus of septic infection, the toxins formed by this, but not the micro organisms, stimulate the vessels of the meninges, brain or ependyma and choroid plexuses to the formation of excessive fluid The primary cause may also be toxins generated by non pyogenic organisms, and in rarer cases the excessive fluid results from causes other than toxins of microbic origin The symptoms in the acute or chronic conditions, respectively, may simulate the gravest form of brain disease The diagnosis is suggested when there is reasonable evidence that the symptoms are those of increased intracranial pressure, if other well known conditions can be excluded, and it is strengthened by the recognition of the primary cause

28 **Formation of Acute Gastric Ulcers**—Elliott found that the substance tetrahydro B naphthylamine hydrochlorid, when injected subcutaneously in guinea pigs, causes the formation of acute gastric ulcers These result from the action of the gastric juice on the damaged mucous membrane, and they do not appear if the stomach is kept empty of food The ulcers form in one or two hours, and they heal with great rapidity, unless they chance to become septic Repair epithelium covers the raw surface within three days, and from this the glands are regenerated later The drug was dissolved by heat to a 1 per cent solution in neutral Ringer's fluid or in normal saline On cooling, a yellow solution was obtained, which slowly darkened with keeping, while a brown precipitate appeared in the course of a few days A fresh solution was generally employed This was injected subcutaneously over the abdomen

No signs of pain at the site of injection were caused, but in ten minutes or so the general toxic effects appeared The hairs were raised over the shoulders and down the back, and the eyes were widely dilated, while the animal (cat and guinea pigs) became very restless and shook its head up and down Later, irregular convulsive movements appeared in the body and limbs, and the hind legs were partly paralyzed There was no evidence of asphyxia by constriction of the bronchioles If the dose of the drug was excessive, the phenomena of paralysis increased, so that the animal lay feebly on its side with the legs twitching weakly, and death followed in a few hours This fatal result might occur with 2 to 4 c c of 1 per cent solution

With an appropriate injection the phenomena of excitement and poisoning passed away in a few hours, and the guinea pig became to all outward seeming perfectly normal again It ate its food eagerly, and ran about the cage without any token of gastric discomfort None the less, acute ulcers were then always found to be present in the stomach, if the animal were suddenly killed The ulcers developed with great rapidity One or two hours after the injection, ulceration was always visible in the stomach Externally, this could be recognized by purple colored patches of congestion seen through the peritoneal coat Within, the damaged area looked much as the stomach does when a corrosive acid has been swallowed, an irregular swollen patch of hemorrhage and erosion being surrounded by a wide margin of a grayish color without hemorrhage These changes always occurred in the stomach Occasionally small hemorrhagic areas were also visible in the mucous membrane of the colon, cecum and duodenum These were caused by extravasation of blood from congested small venules, but the cells of the overlying mucous membrane seemed to be normal

No deeply situated foci of destruction were ever observed The appearances were simply those of a necrosis and erosion spreading downward from the surface, first through the protecting sheet of epithelial "mucous" cells, and then rapidly down the framework of the tubules The cells seemed to be loosened from their basement membrane by the action of the invading gastric juice before they were actually killed and digested In one hour after the injection the necrosis may have extended down through the entire depth of the mucous membrane Repeated injections were given in a few cases Each fresh injection was followed by the formation of some fresh ulcers, and the old ulcers remained septic, so that they extended through the muscularis mucosa, and even to the peritoneal coat Apart from the spreading effects of such sepsis, there was no tendency noticed for the ulcers to remain and pass into a chronic state Consequently, the experiments were not carried any further

29 **Bronzed Diabetes**—The most helpful outcome of the work here placed on record is the evidence which is afforded that, in cases of hemochromatosis, the accumulation of iron in the tissues is not, like the deposits of iron in cases of hemolytic anemia, due to any excessive destruction of blood corpuscles but rather to a failure to excrete iron by the usual channels The investigations confirm those of others who have failed to find evidence of undue hemolysis in cases of the same kind, and tend to support the view put forward by Parker that the iron set free in tissue catabolism fails to be got rid of, and so accumulates

30 **Infective Cases of Splenomegaly and Banti's Disease**—In the spleen of six cases, three with the picture of Banti's disease, two with splenic enlargement and fibrosis, and one with splenomegaly examined by Gibson, there was found, by a special method of staining, an appearance which he interprets as a parasitic invasion of the organ by a streptothrix organism, this being in such a relation to the affected parts at least in the cases of Banti's disease as to leave no doubt in his mind that they are the cause of the pathologic condition Many other spleens examined with the same object in view, several of which had pigmented spots, showed no such appearances Two different appearances are described, one being present in four cases the other in two, which at first sight suggests two different species of streptothrix The stain with which the possibility of a parasite becomes a certainty is Wheal and Chown's method for staining clubs in actinomyces; briefly, it is a double stain, first by hemotoxylin, then by carbol fuchsin, the decolorization being effected by equal parts of absolute alcohol and saturated watery picric acid No cultural proof is yet available that these structures are parasites

Annales de Médecine et Chirurgie Infantiles, Paris

January 1, XVIII, No 1, pp 1 32

33 *Dentition, Helminthiasis and Growth as Scapegoats (Trois vérités scientifiques Trois erreurs populaires) Gaujoux
34 Proctoclysis for Children (Le sérum continu intrarectal en médecine infantile) E Lesné

January 15, No 2, pp 33 68

35 Inoperable Cancer of the Scalp on Boy of 14 Recurrence after Two Operations Since Age of 6 Etienne and Aimes
36 Retention of Urine During Acute Stage of Epidemic Poliomyelitis G Schreiber and D Allaines
37 *Whooping Cough L R Dumas

33 Teething and Growing Pains.—Gaujoux comments on the way in which mothers ascribe everything wrong in their children from the first to the sixteenth year to teething, worms or growing pains From these three scientific verities have grown great popular errors, leading to the neglect of symptoms of unsuspected cystitis, digestive disturbance or tonsillitis when a child has fever summarily ascribed to dentition, or bone or joint processes explained as "growing pains" Systematic examination of stools has shown that helminthiasis cannot be incriminated in fully 90 per cent of the cases but his own experience has shown that tapeworm is liable to be found in even young children who eat very rare beef, and that it is well to examine the stools for parasites in every case of anemia of obscure origin He emphasizes also that there is certainly a local inflammation when a tooth makes its appearance, and the child's resisting powers are correspondingly depressed, rendering it more susceptible to morbid factors The fact of growth, also, determines or favors various disturbances for which the physician should be on the lookout, retarded growth, stoppage or too rapid growth, pains from the latter, albuminuria at some stage of growth, menstrual anomalies, nervous troubles, headache, tendency to malformation in the chest or spine, palpitations, dyspepsia, etc The physician should be thoroughly posted on all these and detect them in their incipiency in children in his charge Inadequate respiration is an important factor, he thinks, in these growth disturbances, and in every case the task is to distinguish between the influence of the growth and of pathologic factors, as dentition and growth are essentially physiologic processes

37 Whooping-Cough—Dumas reviews the present status of our knowledge in regard to pertussis, stating that the evidence to date seems to incriminate the Bordet Gengou bacillus and open a vista for promising treatment The testimony yet in its favor is still far from conclusive He adds that in tedious cases with frequent paroxysms of coughing, morphin may render useful service unless contra indicated by albuminuria

Archives Générales de Médecine, Paris

December, XCII, No 12, pp 1061 1140

38 Training the Respiratory Muscles (Technique de l'éducation de la fonction respiratoire) F Gommaerts

Archives des Maladies du Cœur, etc, Paris

December, VI, No 12, pp 753 922

39 The Syndromes of the Various Types of Cardiac Insufficiency H Vaquez
40 Changes in the Blood in Anemia from Obstetric Hemorrhage V Wallich and P Abrami
41 Heart Block (Dissociation sino auriculaire) D Danielopolu

Bulletin de l'Académie de Médecine, Paris

December 30 LXXVII, No 42, pp 621 647

42 Description of Diabetes by Arabian Physician in Tenth Century Dinguizli and A Robin
43 Technic for Examination of Sputum F Bezançon and A Philibert

Journal de Médecine de Bordeaux

December 21, LXXXIV, No 51, pp 821 836

44 Attenuated Criminal Responsibility (Les aliénes devant la justice) G de Gardenal

January 4, LXXXV, No 1, pp 1 16

45 *Iodin Treatment of Tuberculosis L Boudreau

45 Intensive Iodin Treatment of Pulmonary Tuberculosis—Boudreau regards iodin as the direct, specific and heroic procedure for tuberculosis, and declares that it transforms the system in a way amounting to a complete immunization, modifying the organic habits He has been giving it systematically for the last ten years in treatment of pulmonary tuberculosis, pushing it to the limit of tolerance The patient takes it in his beverages; it has a disagreeable taste only in plain water He has used various preparations of iodin but prefers the tincture (the French tincture of iodin contains 1 part iodin to 12 parts 90 per cent alcohol) He commences with small doses, carefully testing the tolerance, insisting that pure iodin is not so liable to cause symptoms of iodism as its salts From 20, 60 or 100 drops a day of the tincture of the iodin, the patients pushed the doses themselves to 200 or 300 drops a day, carefully fractioned, one patient took 400 drops for a time in the summer without the slightest inconvenience Signs of iodism were extremely rare and so slight as to be generally negligible His experience has been mainly with pulmonary tuberculosis, but his results with renal tuberculosis were also so encouraging that he urges a thorough trial of the iodin treatment before removing a kidney for a tuberculous process Iodin is the wonderful exception, he says, among microbicidal substances in that, fatal for microbes, it is a tonic for human beings The dosage has to be individualized, some of the apparently mildest forms of pulmonary tuberculosis proving most tenacious and vice versa Children of 6 or 7 take up to 40 or 60 drops a day without signs of intolerance

Lyon Chirurgical, Lyons

December, X, No 6 pp 537 656

46 *Laryngo Pharyngectomy for Cancer L Berard and Sargnon
47 Extraperitoneal Access to the Hypogastric Plexus and Its Ganglion V Rochet and A Latarjet Commenced in No 5
48 *Grafts of Thyroid Tissue (Greffes thyroidiennes) H Paschoud
49 Direct Transfusion of Blood Suturing Artery to Vein Briau

46 Resection of the Throat for Cancer—Two cases are reported and other recent cases from the literature are briefly cited The immediate mortality was 19 per cent including seven cases of early recurrence The technic is discussed and the fact that the operation on the pharynx does not seem to enhance the danger of the intervention as the region is accessible With laryngectomy alone, drainage is so imperfect that gangrene cannot be warded off In the cases cited, three of the patients are in good health after intervals of seven years, four years and three years among those whose fate is known

48 Thyroid Grafting.—Paschoud gives three colored microphotographs besides a number of illustrations in the text accompanying his history of thyroid grafting and account of his own work in this line Thyroid tissue seems to be particularly favorable for engrafting, it frequently lives grows and functionates, and this method of treating myxedema and cachexia strumipriva is not to be disdained No benefit is known to date from thyroid grafts in tetany and cretinism At the same time, Paschoud remarks, he has been unable to find in all the literature even one case in which the remote results were favorable enough to justify the assumption of any real efficacy from the thyroid grafting operation He relates the case of a woman who had a tumor develop in the region years after removal of a parenchymatous goiter It was removed at the sixth year Again a tumor developed in the region, this time in the scar, and this tumor was removed eight years after the second Each of the tumors had all the characteristics of thyroid tissue and he is convinced that each developed from an engrafted scrap of the thyroid during the preceding operation The bibliography on thyroid grafting closes the article, a list of 147 titles

Lyon Médical, Lyons

January 4 LXXI No 1, pp 1 56

50 Symptoms from Anemia of the Brain with Heart Bl (Pauses ventriculaires et accidents vertigineux dans maladie de Stokes Adams Troubles de conduction n ventriculaire) L Gallavardin

Presse Médicale, Paris

January 3, XXII, No 1 pp 1 12

51 Abbott's Treatment for Curvature of the Spine L Ombrédanne
52 *Technic for Amputation of Breast for Cancer I Tansini
53 Artificial Lipoid Membranes E Fourneau

January 7 No 2, pp 13 20

54 Renovation of the Blood under Salvarsan in Syphilis P Weil and L Guénot
55 Spinal Anesthesia J M Bartrina

52. Amputation of the Breast.—Tansini's method and its superior advantages in many cases were discussed recently in The Journal, 1913, lxi, 2202.

Revue de Gynécologie, Paris

December, XXI, No. 6, pp. 449-620

56 *Non-Malignant Tumors of the Breast. II. M. Letulle.

56. Non-Malignant Tumors of the Breast.—In this second part of his article Letulle discusses the histology and pathogenesis of benign mammary tumors, with two colored plates and sixty illustrations in the text. He traces all nonmalignant tumors of the breast, solid or cystic, to some embryonal malformation.

Revue Médicale de la Suisse Romande, Geneva

December 20, XXXIII, No. 12, pp. 873-964

57 Bacteriologic Study of Febrile Abortion. C. Waegeli.
58 *Ether for Lavage of the Peritoneum. L. Jeanneret.

58. Ether for Lavage of the Peritoneum.—Jeanneret believes that the recovery of the child of 7 whose case is described can be credited only to the use of the ether in a late stage of acute peritonitis from appendicitis. He reviews several unpublished cases from the experience of others, all tending to sustain Souligoux' claim that the method represents a great improvement in the prognosis of infection of the peritoneum. (The technic was described in detail in De Tarnowsky's recent article in The Journal, January 24, p. 281.)

Revue Pratique d'Obstétrique et de Gynécologie, Paris

December, XXI, No. 12, pp. 353-384

59 *Gastro-Intestinal Hemorrhage in Two New-Born Infants Nursing Same Woman. A. Bonnet-Laborderie.
60 Popular Prejudices in Regard to Menstruation. Duroy.
61 Jaundice after Abortion; Two Cases. Anderodias and Dronin

59. Gastro-Intestinal Hemorrhage from Breast Milk.—The new-born child of a supposedly healthy woman had hemorrhages from the stomach and bowels as it began to nurse its mother. The child was transferred to an incubator, and another newly born child placed at the woman's breast. In a day or so this infant also developed gastro-intestinal hemorrhage, and a third infant given her milk vomited a yellowish fluid. Analysis of the breast milk showed only 16 gm. fat but 36.9 gm. casein by weight per thousand; the normal average is respectively 40 and 11 gm.

Semaine Médicale, Paris

January 7, XXXIV, No. 1, pp. 1-12

62 *The Loose Uterus. (L'utérus ballant.) F. Lejars.

62. The Flopping Uterus.—Lejars applies this term to the freely movable uterus which alters its position, swaying to right or left, backward or forward at will, and thus giving rise to intermittent symptoms in puzzling variety. In one such case the fundus of the uterus could be felt in the posterior cul-de-sac, enlarged and tender. The evening before the operation to correct the exaggerated retroflexion, the displacement was determined anew, but when the abdomen was opened the fundus was found to have flopped over in the night and was in anteflexion. The ligaments were shortened, the appendix was removed, and all disturbances were cured. If the possibility is once thought of that the fundus of the uterus may be free to move around, this will often explain puzzling syndromes which suggest trouble in the adnexa, or tumors, etc. The disturbances are generally increased during menstruation. Repeated examination, with the pelvis raised or lowered, will generally reveal the excessive movability of the uterus; an abnormally long and flexible isthmus is the cause. Shortening the ligaments may cure all the disturbances and again it may not. Lejars says it is not a question of operative treatment but of general therapeutics, often quite complex, the various elements of which must be sought out and studied. He quotes Hölder's statement that in 142 cases of movable retroflexion, corrected by the Alexander-Adams operation, one-third of the women in whom the orthopedic result was nil had no disturbances, while a third of those with perfect orthopedic outcome yet suffered from functional disturbances. The functional outcome is due less to the attitude of the uterus than to the cure of complications, prolapse or endometritis.

Berliner klinische Wochenschrift

January 5, LI, No. 1, pp. 1-48

63 Trauma and Kidney Disease. (Unfälle und Nierenerkrankungen.) Goldscheider.
64 Trephining Leaving Lattice-Work of Bone. (Gittertrepanation.) L. Dreyer.
65 Foreign-Body Injury of Esophagus with Perforation of the Aorta. H. Chiari.
66 *What Acute Infections Have Preceded Leukemia? (Eine Arbeitshypothese für die Erforschung der Leukämie.) D. v. Hansemann.
67 *Operative Treatment of Exophthalmic Goiter. (Wandlungen und Fortschritte in der chirurgischen Behandlung der Basedow'schen Krankheit.) H. Klose.
68 *Radiotherapy of Uterine Cancer. F. Heimann.
69 Gall-Stone Found in Liver. S. Siber.
70 Case of Acute Erotic Paradidymitis. J. Heller.

66. Leukemia.—Hansemann is convinced that some acute infectious disease is the forerunner of leukemia and allied conditions. Acute leukemia is in itself the clinical picture of an acute infectious disease or intoxication. Many of its manifestations resemble those of severe diphtheria and other septic diseases; but the differences must also be emphasized, the noncontagiousness, and the impossibility to date of transmitting the disease to animals. One writer has recently stated that he had found a history of malaria in all his cases. There is much to sustain the hypothesis that the tonsils are generally the primary seat of the infectious process. Hansemann urges all to investigate the previous history in every case of leukemia so that a composite picture may be obtained as to the infections passed through before the onset of the leukemia. If these data in cases of leukemia are reported to him, he will compile and compare them and with a little cooperation in this way much light may be thrown on the leukemias. (His address is Prof. Dr. D. von Hansemann, Winklerstrasse 27, Grune, Berlin, Germany.)

67. Operative Treatment of Exophthalmic Goiter.—Klose expatiates on the increasing safety and benefit from operative treatment in Basedow's disease since the practice has been adopted of resecting the thymus along with the thyroid, or removing the entire thymus. The danger with thyroidectomy in exophthalmic goiter seems to be acute intoxication from the thymus after the thyroid is gone. At Rehn's clinic there were eight deaths from this cause alone—"thymus deaths"—in 130 operative cases of exophthalmic goiter up to 1911, but since then the thymus has been resected along with the thyroid, and there have been no deaths in the 200 cases. The capsule of the thymus is left, as its removal is liable to bring on serious hemorrhage. The operation is simple and easy but there must be a week or two of preparation, psychic, dietetic and medicinal. General anesthesia is not used; ice is applied to the goiter and heart. Local anesthesia and systematic accessory resection of the thymus have placed the surgical treatment of Basedow's disease on a new plane.

68. Radiotherapy of Uterine Cancer.—Heimann reports eighteen cases of inoperable uterine cancer in which remarkable benefit was realized in all but five from exposure to mesothorium and Roentgen rays. In six of the patients the improvement amounts to a clinical cure, and he witnessed no by-effects from the exposures in any instance. He gives the microscopic findings in a scrap from a cervix cancer before and after the exposures, showing the complete disappearance of the numerous cancer nests.

Deutsche medizinische Wochenschrift, Berlin

January 1, XL, No. 1, pp. 1-56

71 *Treatment of Heatstroke, Sunstroke and Electric Injuries. (Behandlung akut bedrohlicher Erkrankungen.) Grober.
72 *Operations on Diabetes. (Diabetes und chirurgische Erkrankung.) F. Kraus and F. Karewski.
73 The Work of the Vessel Walls. (Arbeit der Gefässmuskeln.) K. Hürthle.
74 *Thread Test for Stomach Acidity. (Zur intrastomachalen Kongofadenprobe.) G. Schwarz.
75 Complement Fixation in Tuberculosis. J. Davidovics.
76 Behring's Method of Vaccination against Diphtheria. B. Hahn and F. Sommer.
77 Diathermia in Otology. F. Mendel.
78 Relations between Psoriasis and Tuberculosis. Warnecke.
79 Style-Book for Abbreviations in Medical References Adopted by German Medical Press. (Einheitliche Abkürzung der Titel medizinischer Zeitschriften und Werke in Quellenangaben.) J. Schwalbe.

71. Heatstroke, Sunstroke and Electric Accidents.—Grober reiterates that in these conditions artificial respiration can never be applied too early nor kept up too long, but with heat or sunstroke it must be done cautiously not to bring on or exaggerate cerebral hemorrhage. Especially as the patient revives, attention should be paid to possible paralysis from this cause and the necessity for quiet which it imposes. Resuscitation has often occurred after ten or twelve hours of continuous artificial respiration. When the veins are much congested, generally in elderly, plethoric persons, and also in case of emphysema of the lungs or chronic bronchitis or tuberculosis, venesection, withdrawing 250 or 400 c.c. of blood may be useful; supplementary saline infusion is not needed. In presence of heatstroke, the physician must not forget in his solicitude for the patient to look after the welfare of others and ward off further cases of heatstroke, as the same meteorologic and other conditions are liable to affect a number of persons at the same time. A tendency to convulsions or delirium with either heat or sunstroke may require small doses of some sedative and it should not be withheld too long. In treatment of electric burns he has found most useful a liniment of lime water and olive oil in equal parts.

With an accident from a high power electric current, artificial respiration should be renewed again and again even after all hope seems lost; massage of the heart may also prove useful. Lumbar puncture has rendered good service in some cases. To get rid of the degeneration products caused by the passage of the powerful current through muscles and liver, venesection and saline infusion have proved useful in many cases after the emergency indications with regard to respiration and circulation have been met.

72. **Operations on Diabetics.**—Kraus gives the experiences and views of Payr, Naunyn, Minkowski and von Noorden in this line, and Karewski reviews his own experience with surgical treatment for thirty years all on the same principles. He states that seven of sixty-eight diabetic patients died of coma after operations on aseptic tissues, that is, 11.8 per cent. The mortality from coma in sixty-nine cases of operations in infected tissues was fifteen, that is, 21.7 per cent. He insists on the necessity of examining for diabetes every patient before every operation, as diabetics require treatment according to the strictest principles of internal medicine before, during and after any surgical measure. Under aseptic conditions, the wounds heal smoothly but infectious processes run a malignant course and increase the danger of the constitutional disease. He would restrict all operations on diabetics to those with vital indications or when necessary to restore the earning capacity. With these limitations, diabetes should not modify the usual principles of surgical procedure. Naunyn regards postoperative coma as an acidosis. All emphasized the greater susceptibility to infection, and the unfavorable influence from any operation on the course of the diabetes by the psychic shock, the injurious influence of the anesthetic, loss of blood, restricted diet and more or less impairment of the respiration and circulation. Minkowski says that suspicion of diabetes should compel the minutest asepsis and avoidance of all antiseptics liable to have a toxic action, refraining from constricting bandages, infiltration anesthesia, ligatures *en masse*, etc., with special care for the diet and supply of alkali to neutralize the acid.

74. **Thread-Test for Gastric Acidity.**—Schwarz uses a solid gelatin capsule containing a heavy powder giving a neutral reaction. The capsule is pierced and a thread drawn through it which has been soaked for half an hour in a 0.25 per cent. aqueous solution of congo red. The thread is 120 cm. long and after passing through the capsule, is tied over it and the capsule is then swallowed half an hour after a test breakfast. The free end of the thread is held in the hand. After fifteen minutes the thread is drawn out, the capsule having dissolved in the stomach in the meanwhile. The end of the thread which has been in the stomach is now dark blue or violet proportional to the amount of hydrochloric acid in the stomach content; if the thread is still red, this shows anacidity or that the capsule has stuck somewhere on its way. By this simple means the condition in regard to acidity in the stomach can be determined without inconveniencing the patient.

Medizinische Klinik, Berlin

January 4, X, No. 1, pp. 1-46

80 *Tuberculous Epididymitis. W. Anschütz.
81 *Non-Malignant Stenosis of the Pylorus. I. Boas.
82 *Diabetes; Nature and Treatment. W. Falta.
83 Diathermia and Electrocoagulation in Urology. H. Wossidlo.
84 Secondary Tuberculosis. G. Liebermeister.
85 Aviation and the Eyes. (Die Augen der Luftfahrer.) Halben. Concluded in No. 2.

80. **Tuberculous Epididymitis.**—Anschütz discusses the questions whether the testicle is liable to become involved; whether removal of one testicle and epididymis will prevent the involvement of the other side; the influence on the outcome of tuberculous lesions elsewhere; the influence of castration on a tuberculous process in the prostate and seminal vesicles, and, lastly, what are the consequences of double castration. He tabulates the details and later history in 174 cases of unilateral castration; recurrence followed in three years or later in only 30 per cent. The condition of the prostate and vesicles at the time of the operation seemed to have no influence on the ultimate outcome. Double castration was followed by complete recovery in 82 per cent of the twenty-eight cases free from other tuberculous complications outside of the prostate and vesicles but only 17 per cent. were living three years later of the twenty-three with complications elsewhere. Tuberculous epididymitis not given operative treatment spreads to the other side in from 50 to 75 per cent. of all cases. When both sides are involved, he advises unilateral castration and conservative resection or curetting on the other side, unless there is already a fistula on both sides, when double castration should be the rule. Microscopic foci in the testicle are liable to heal after removal of the epididymis. Further experience in this line is urgently needed to determine whether this alone is sufficient in case one side only is affected. Anschütz has prepared some question-blanks to collect data on this subject, and will gladly send some on demand. (His address is Prof. Dr. W. Anschütz, Kiel, Germany.)

81. **Treatment of Non-Malignant Stenosis of the Pylorus.**—This article is practically a sequel to the one summarized in THE JOURNAL, Dec. 6, 1913, p. 2110. Boas here gives minute details how to determine the exact condition in the stomach, and means to combat insufficiency of the pylorus. Residue in the stomach twelve hours after a meal indicates that the pylorus is obstructed but not necessarily that there is dilatation of the stomach. With dilatation there is a pronounced succussion sound on slow change of position; a splashing sound is not decisive, at least fasting. With stenosis, part of the stomach wall stiffens or bulges on systematic rubbing of the fundus. The degree of stiffening or bulging is proportional to the extent of the obstruction offered by the pylorus. The presence of residue can be determined by roentgenoscopy but Boas prefers his test supper and examination of the stomach contents next morning as more instructive.

The degree of stenosis is readily determined by giving fasting 400 c.c. water to which have been added fifteen drops of an aqueous solution of some stain (chlorophyl) and after half an hour the stomach contents are forced out by expression or siphoned out. If not more than 50 c.c. of the water is found then in the stomach the pylorus must be regarded as normally permeable. A more convenient but less reliable means is by measuring the intake of fluids and total output of urine; this should be done for eight days to be approximately reliable. If the twenty-four-hour urine totals 500 c.c. or less the stenosis must be serious; with 500 to 800, moderately severe, and above this merely slight stenosis may be assumed.

In treatment the aim must be to modify the diet until there is no retention. Exclusively fluid but nourishing food at first, milk, cream, eggs, fruit, meat jellies and vegetables in pulverized form. If there is no residue with this, after three or four days one or two rolls or zwieback can be added, gradually adding soft mashed potato, and other vegetable *purées, beaten omelet, etc. If not enough of the above* to sustain the patient's strength can be taken without residue, the surgeon should be called in unless the patient learns to expel

Zeitschrift für klinische Medizin, Berlin

LXXIX, Nos. 1-2, pp. 1-176. Last indexed Jan. 3, p. 82

113 Diabetic Coma Not an Acid Intoxication. (Zur Frage der 'm Coma diabeticum.) J. Masel.
114 Blood with Endemic Goiter. (Blut- Berücksichtigung des endemischen
115 Study of Case of Paroxysmal Hemoglobinuria Brought on by Cold. O. Lindbom.
116 The Virus of Fowl Leukemia. V. Ellermann.
117 The Iron Metabolism with Pernicious Anemia, etc. (Eisenstoffwechsel.) Queckenstedt.
118 Concentration of the Blood Serum in Anemia and Blood Disease. E. Hendorfer.
119 Mechanism of Improvement in Circulation in Erect Position. (Ursachen der Orthopnoe. II. Die kardiale Orthopnoe.) L. Hofbauer.
120 *Influence of Emotions and Mental Strain on the Heart. (Einfluss der Gemuthsbewegungen und geistiger Ueberanstrengung auf das Herz, insbes. auf die Entstehung der Arteriosklerose.) J. Pawinski.

120. Influence of Emotions and Excessive Brain Work on the Cardiovascular System.—Pawinski says that the human brain manifests its feelings through the heart. The intimate connection between the emotional sphere and the action of the heart is a long familiar fact, but it can never be reiterated too often as the physician by suggestion rather than drugs can be such a power for good in many cases. Among 25,000 cases of cardiovascular disease, Pawinski found that grief or worry had been an important factor in 8.6 per cent. of 3,156 cases of arteriosclerosis in men; it seemed to be the exclusive factor in 3.2 per cent. The corresponding figures for angina pectoris were 13.4 per cent. in 1,074 cases. It ranks fourth here in the list of manifest factors, following tobacco, obesity and alcohol in turn. In women, obesity is the predominant factor in angina pectoris, but next to this emotional stress; the marked influence of grief or worry was evident in 14.2 per cent. of 224 cases of angina pectoris in women. It seemed to have been the exclusive factor in 1.1 per cent. and also in 4.1 per cent. of 943 cases of sclerosis of other vessels.

Excessive brain work could be incriminated in 9.2 per cent. in 1,075 cases of coronary sclerosis in men; alone, in 1.9 per cent. In 2,081 cases of sclerosis of other vessels, it could be incriminated in 4.5 per cent.; alone in 1.7 per cent. Excessive brain work thus is, next to syphilis, the leading factor in sclerosis in men. Grief, worry and excessive brain work, especially when combined, depress the innervation of vital organs and derange the metabolism, and the cardiovascular apparatus bears the brunt of the disturbance first and foremost. Of all occupations calling for mental effort under unfavorable conditions, the medical profession, he declares, takes the lead. Excessive mental, emotional and even physical stress, the demands on their sympathy, are the cause of the frequent development of arteriosclerosis in physicians. Lawyers have to work under similar but less wearing conditions, also big manufacturers, bankers, authors, and the leaders of political parties.

Zentralblatt für Chirurgie, Leipsic

January 10, XLI, No. 2, pp. 49-88

121 Rc Meyer (N. Y.).
122 M: ehandlung des Billroth II.)
123 *Te Bayer.
124 *Th Kreuter.

123. Simple Technic for Closing Artificial Anus.—Bayer has applied in two cases with eminent succeess the technic he describes. He loosens up the mucous membrane for a short distance in both the afferent and efferent loop, and sutures this alone, thus restoring the continuity of the mucosa tube without attempting to suture the other layers of the intestine, merely suturing the skin above.

124. The Blood after Removal of Healthy Spleen.—The spleen in a healthy boy of 15 had been crushed beyond repair in an accident. The splenectomy followed at once and by the end of the sixth week the blood picture had returned almost completely to normal. The reaction to injection of epinephrin or pilocarpin, fasting, was similar in every respect to that in normal persons with healthy spleens.

Zentralblatt für Gynäkologie, Leipsic

January 10, XXXVIII, No. 2, pp. 65-112

125 Eclampsia after Abortion at Third Month. (Früheklampsie.) K. Bolling.
126 Technic for Mesothorium Therapy. J. Braude.
127 Abderhalden's Serodiagnosis of Pregnancy. (Abderhalden's Dialysierverfahren lässt bei Kühen die Trächtigkeit nicht frühzeitig erkennen.) K. Behne. (Abderhalden'sche Reaktion und ihre Anwendungen.) R. Akimoto.

Policlinico, Rome

January 4, XXI, No. 1, pp. 1-40

128 Lumbar Puncture for Idiopathic Headache. G. Mingazzini.

Rivista Ospedaliera, Rome

December 31, III, No. 24, pp. 1081-1126

129 *Nostril Symptom in Pneumonia. (Il sintoma dell'atteggiamento passivo delle pinne nasali nella polmonite crupale.) A. Carducci
130 The Phenolsulphonephthalein Test of Kidney Functioning. G. Rainoldi.

129. The Nostril Sign in Pneumonia.—Instead of swelling outward during inspiration and dropping during expiration, the pathologic sign is that the nostrils dilate during expiration and drop during inspiration. This indicates severe intoxication from the pneumonia and weakness of muscles. It does not occur in all cases with a fatal outcome so that the absence of the sign is not necessarily a favorable omen.

Brazil-Medico, Rio de Janeiro

December 15, XXVII, No. 47, pp. 510-519

131 Campaign against Tuberculosis. C. Seidel.

Semana Medica, Buenos Aires

December 4, XX, No. 49, pp. 1301-1392

132 Cardiac Insufficiency and Asystoly. J. R. Goyena.
133 *Salvarsan Not Effectual in Rabies. C. R. Mejia.

December 11, No. 50, pp. 1393-1472

134 *Reactivation of the Permeability of the Meninges in Treatment of Syphilis of the Nervous System. J. J. Viton.
135 Rupture of the Uterus. J. C. R. Dominguez. Commenced in No. 49.

133. Salvarsan Ineffectual in Rabies.—Mejia tabulates the results of his experiments all showing that salvarsan even in doses proportionately much larger than is possible in the clinic had no appreciable effect on experimental rabies in eighteen rabbits. In these and in other series of animals and in rabies in human beings treated with salvarsan, inoculation of sound animals with a scrap from the medulla was invariably followed by the development of rabies.

134. Permeability of the Meninges Important Factor in Treatment of Tabes and Paresis.—Viton found that reactivation of the permeability of the pleura was an indispensable element in the cure of pleurisy, and his success in this line suggested that the non-permeability of the meninges was the cause of the ineffectual action of drugs in syphilitic affections of the central nervous system. By inducing a slight chemical irritation in the meninges they are rendered permeable, and he has taken advantage of this fact to good effect. Artificial serum can be injected into the spinal canal for the purpose or a mild disinfectant. Sicard recommends a mixture of 0.1 gm. of mercuric cyanid; 0.015 gm. of novocain and 2 c.c. of 5 per thousand salt solution. He injects part or all of this amount and repeats it a month later, pushing mercury or salvarsan in the interim. Viton has thus succeeded in materially relieving tabetic patients with gastric crises or lightning pains, the improvement being constant and marked. He has found mercury as effectual as salvarsan when given by this technic, while he regards it with greater confidence. The intraspinal injection is sometimes followed by pains or sensations of heat in the legs, but this is transient. When the fluid is suspected of being under high pressure he has the patient lie on his side, and he withdraws 8 or 10 c.c. of the fluid and gently injects 1 or 2 c.c. of the cyanid solution, not allowing the patient to sit up afterward for fifteen or twenty hours. Viton is professor of clinical medicine at the university of Buenos Aires.

Ugeskrift for Læger, Copenhagen

December 25, LXXV, No. 52, pp. 2079-2092

136 Abbott's Treatment for Scoliosis. E. Nyrop.

January 1, LXXVI, No. 1, pp. 1-134

137 Management of Delivery with Contracted Pelvis. (Behandlingen af Fødsel ved snævert Bækken.) L. Meyer.
138 Apparatus for Artificial Pneumothorax. A. Gjørup.

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THE PHENOMENA OF INFECTION *

VICTOR C. VAUGHAN, M.D.
ANN ARBOR, MICH.

Doerr[1] of Vienna closes an excellent review of recent work on so-called anaphylaxis or protein sensitization with the following paragraph:

> While it must be admitted that the action of those infective bacteria which are not known to produce specific toxins remains without explanation, and while the theories which have been developed by von Pirquet, Friedberger, Vaughan, Schittenhelm, Weichardt and others have opened up a new way to the understanding of incubation, fever and crises, still it must be borne in mind that the premises of these theories do not possess the force of demonstrated facts. It has not been positively shown that the symptoms of anaphylaxis are due to the parenteral cleavage of proteins, that the true anaphylactic poison is identical with that produced *in vitro* and that both come from the antigen. Even if we agree with Dold, Sachs and Ritz that so far as the rôle of anaphylaxis in the infectious diseases is concerned, it is irrelevant from what matrix and by what processes the hypothetic anaphylactic poison is produced, even then not all the difficulties are removed. Numerous infecting agents are not anaphylactogens; they do not differ in their effects on sensitized and non-sensitized animals, and even when there are differences they are slight compared with those seen when the protein antigens derived from the higher plants and animals are employed. The relatively simple structure of the bacterial proteins is the cause of this. Therefore it is questionable whether one has the right to explain the phenomena of the infectious diseases with serum sensitization as a starting-point. Moreover, the infections are not so monomorphic as some suppose from a superficial consideration. Measles and scarlet fever seem much alike; still, during an attack of the former the body cannot be sensitized to tuberculin or vaccine, while the latter does not induce this condition.

This statement, following as it does a fair but critical review of the new theories referred to and the work on which they rest, is certainly just. The purpose of this paper is to state the sensitization or parenteral digestion theory as I understand it and weigh the evidence for and against it. It should be plainly understood that in doing this I am speaking my own views, and it is probable that no one of the investigators with whom Doerr has done me the honor of grouping me would agree with me in all details, nor I with them.

It may be well to meet at the outset the chief objection which Doerr makes, in the foregoing quotation, to the sensitization theories. He states that the bacterial proteins have a relatively simple molecular structure. This is an assumption without a fact to support it. Because bacterial cells are relatively simple morphologically, it has been inferred that they are simple in the chemical structure of their protein constituents. This certainly is not true. My students and I have shown that the bacterial proteins are quite as complex as those of the cells of our own bodies. They contain at least two carbohydrate groups, one of which has been quite positively located in the nucleic acid fraction, while the seat of the other has not been determined. They furnish nuclein basis, thus showing the presence of one or more nucleic acids, which has been inferred from their behavior toward the basic strains. They yield diamino- and mono-amino-acids in like abundance and variety as these are found in the proteins of the higher plants and animals. In short, bacteria consist largely of glyconucleoproteins. Recent papers from Kossel's laboratory[2] confirm my assertion that the chemical structure of the bacterial proteins is not simple.

Doerr's statement that numerous infective agents are not anaphylactogens is one which I can neither confirm nor deny. It seems to me, however, to be an assertion which needs qualification. There are many kinds and degrees of sensitization depending on the sensitizer and the cell acted on. In some instances the sensitized state continues for many years; in others it lasts for only a few weeks or months, while in still others it is even more ephemeral.

SENSITIZATION OR PARENTERAL DIGESTION THEORY

In order to save space and time I will formulate my views concerning the phenomena of infection as follows:

All infecting agents are living proteins capable of growth and multiplication. They may contain carbohydrates, fats and waxes, possibly other and simpler chemical bodies, but their essential and characteristic constituents are proteins. This is true not only of all infecting agents but also of all life units. The infecting agents which we know are bacteria, protozoa, molds and yeasts. These possess physical characters which enable us to individualize them, but theoretically there is no reason why a living thing, and consequently a virus, may not be a liquid. Each and every living thing must feed, assimilate and excrete. Its molecules must be in a labile state, taking in and casting out atomic groups simultaneously. The bacterium can feed only on the pabulum within its reach, and of this it can utilize only that which it can fit into its molecular structure. Only this is pabulum to the cell. Organisms which cannot utilize the proteins of the animal's body cannot be pathogenic to that animal. All living things feed through the activity of their ferments. These are of two kinds, analytic and synthetic. The former split up the pabulum into proper building-stones, while the latter places these stones in proper position in the cell molecule. Usually we say that cell ferments are extracellular and intracellular. The former diffuse more or less into the medium and exert a cleavage action; the latter remain in the cell and do a constructive work. That these ferments are in reality different bodies is indicated not only by the parts they play in the life of the cell, but also by the fact that they are differently affected by heat and chemical agents. Ferments are specific in two senses: first, each kind of cell elaborates its own ferment, and secondly, the ferment is able to split up only certain proteins. Besides, for each ferment there is an optimum temperature at which its action is greatest. There are many bacteria which cannot grow at body temperature. These organisms cannot be pathogenic. This is true of most saprophytic bacteria found in water. Then, there is the relation between ferment and substrate which requires a nicety of adjustment which is not thoroughly understood. Finally, in a general way an accumulation of fermentative products retards the action of the ferment.

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* A lecture given before the Harvey Society of New York, Jan. 17, 1914.

[1] Doerr: Handbuch der pathologischen Mikroorganismen, Bd. 2.

[2] Tamura: Ztschr. f. physiol. Chem., 1913, lxxxix, 85.

It must be remembered that the body-cells, like the bacterial cells, digest proteins. They also elaborate analytic and synthetic or extracellular and intracellular ferments. These ferments have been especially studied in the leukocyte. The extracellular ferments elaborated in leukocytes are germicidal because they digest bacterial proteins, and they are destroyed by a temperature of 56 C. (132.8 F.). The intracellular ferment of the leukocyte is also bactericidal and for a like reason, but it bears a much higher temperature. Every living cell in the animal body, like every bacterial cell, elaborates its specific ferments. This has been demonstrated positively by Abderhalden[3] and his students.

It must be evident from what has been said that the pathogenicity of a given virus is determined by its ability or inability to grow in the animal body. Its inability to do this may be due to the fact that it cannot digest and therefore cannot feed on the proteins of the body, or it may result from the fact that the ferments of the body-cell digest and destroy the bacterial proteins. Herein lies the explanation of all forms of bacterial immunity, either natural or acquired. Toxin immunity is quite a different thing and will not be treated in this paper.

In case of exposure, the chance of infection depends on several variables, such as the number and viability of the organisms introduced and the state of health or capability of resistance on the part of the animal. In man the effectiveness of the defensive ferments is influenced by heredity, age, food and possibly other conditions. The great fatality of measles and tuberculosis among those peoples who have inherited no resistance to these diseases is well known. That infants and adults are physiologically protected to a marked degree against diphtheria, while children are largely without protection, has been demonstrated by Shick[4] and others. We have long known that typhus, plague, beriberi, scurvy and pellagra are most in evidence when abundance and variety in food are lacking, and the work of Osborne and Mendel,[5] McCollum and Davis,[6] Wellman and Bass,[7] Funk[8] and others on the vitamins promises much.

When the infecting organism multiplies rapidly and soon leads to general sensitization of the body-cells, the disease developed is acute. On the other hand, when the invading organism finds the conditions for its growth less favorable, multiplies slowly, and only imperfectly and locally sensitizes the body-cells, the disease is chronic. When the virus is widely distributed throughout the body and sensitization is general, the disease is systemic. On the other hand, when the virus and sensitization are restricted, the disease is local. In cattle and sheep the anthrax bacillus grows rapidly, becomes abundant in the blood, sensitizes generally, and consequently develops an acute systemic disease. On the other hand, in the hog the growth of the anthrax bacillus is restricted to the lymphatic glands, sensitization is equally local, and the disease is both local and chronic.

That a given pathogenic bacterium may grow in one animal and not in a closely related species is illustrated by the susceptibility of the ordinary sheep and the immunity of the Algerian variety to anthrax. Koch found that the bacilli of mouse septicemia and the cocci that induce necrosis multiply simultaneously in the white mouse, but when field-mice are inoculated with mixed cultures the latter infects while the former fails to develop. Even natural immunity is only relative and may be overcome (1) by massive doses of the virus, which was demonstrated by Chaveau for Algerian sheep; (2) by lowering the temperature, as shown by Pasteur for chickens, and (3) by starvation, as exemplified by Canalis and Morpurgo for pigeons; all with anthrax.

One very important thing that we have learned in recent years is that the ferments produced by the body-cells may be and are modified under certain conditions. The cell may form a wholly new ferment or one whose activity is so modified that it may be so regarded. It is either a new ferment or the old one greatly modified and intensified in its action. We have utilized this function of the body-cells for more than a hundred years in vaccination against small-pox, but this use has been wholly empiric until recently, when it was scientifically explained by the researches of von Pirquet. Small-pox virus is pathogenic to the man who has not suffered an attack of the disease or has not been vaccinated, while to the man who has recovered from the disease and to the one who has been properly vaccinated it is not pathogenic. By the introduction of the vaccine organism, which is a non-virulent form of the virus, the body-cells are trained, as it were, to digest and destroy its proteins, and this leads to the immediate destruction of the virus on subsequent exposure to the disease. The same principle holds in typhoid vaccination with the dead bacillus, now so widely and successfully practiced.

My students and I have convinced ourselves, at least, of the following:

1. The infective bacteria, taking the colon, typhoid, tubercle and the pneumococcus as types, contain an intracellular poison.

2. This is not a toxin because it is not destroyed by heat; it is not specific; it produces no antibody when injected into animals in increasing non-fatal doses.

3. These bacteria elaborate no soluble toxin or poison. In old cultures there may be a trace of poison, but this results from the autolysis of the cells and is not a cellular secretion.

4. This poison can be obtained in soluble form only after cleavage of the cellular proteins, which may be accomplished by superheated steam, dilute acids or alkalies.

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[3] Abderhalden: Ztschr. f. physiol. Chem., 1913, lxxxvii., 220, 231.
[4] Shick. München. med. Wchnschr., 1913, p. 2608.
[5] Osborne and Mendel: Jour. Biol. Chem., 1913, xv, 311.
[6] McCollum and Davis: Jour. Biol. Chem., 1913, xiv, 40.
[7] Wellman and Bass: Jour. Trop Med., 1913.
[8] Funk: München. med. Wchnschr., 1913, p. 2614

5. This poison is a group in the protein molecule.

6. It exists in all true proteins, in pathogenic and non-pathogenic bacteria and in vegetable and animal proteins.

7. It is a split product of the protein molecule.

8. It may result from the cleavage action of proteolytic ferments.

9. In most vegetable and animal proteins the poisonous group is neutralized by combination with non-poisonous groups; consequently such proteins have no poisonous action until they undergo molecular disruption.

10. The poisonous group is common to all proteins; it is probably not chemically identical in different proteins, but is so nearly so that its gross toxicologic action is the same. We designate it as the central or primary group in the protein molecule.

11. This primary group is poisonous because of the avidity with which it combines with secondary groups in the proteins of the animal body.

12. The specificity of proteins lies in their secondary, non-poisonous groups. It is in these that one protein chemically and biologically differs from another.

13. Biologic relationship among proteins is determined by the chemical structure of their molecules. There are as many kinds of proteins as there are kinds of cells.

14. The specificity of the infective bacteria does not lie in the poisonous group of their proteins, for this has the same action in all, but in the non-poisonous groups.

15. The poison that kills in all the infectious diseases is the same.

16. The symptoms of the infections differ on account of the organ or tissue in which the virus accumulates and where it is split up and its poison liberated.

17. The ferment which causes the cleavage of the bacterial proteins in the different infectious diseases is specific. How strictly this is true can be determined only by more exhaustive and exact study.

When a fatal dose of a living virulent culture of the colon bacillus is injected into the peritoneal cavity of a guinea-pig the following effects result: For a period of time which usually varies from eight to twelve hours the animal remains apparently normal. Its temperature may fluctuate slightly but not beyond the normal limits. The coat is not roughened and the position and behavior of the animal in no way distinguish it from its untreated fellows. This is the period of incubation, and varies within certain time limits; but within these it is fairly constant. During this time the bacilli are multiplying enormously in the animal body. They are converting animal proteins into bacterial proteins. This is largely a synthetic or constructive process. The relatively simple, soluble proteins of the animal's body with but little change are woven into the more complex structure of the bacterial proteins. The soluble proteins of blood and lymph are built into the cellular proteins of the bacteria. There is no liberation of the protein poison and consequently no disturbance in the well-being of the host. It seems plain from this that the multiplication of bacteria in the animal body is not the direct and immediate cause of the symptoms of disease. When multiplication is most rapid and unobstructed there are no symptoms, and, in fact, disease is not in evidence. During the period of incubation of an infectious disease the invading organism supplies the ferment, the soluble proteins of the animal body constitute the substrate, the process is constructive, simple proteins are built into more complex ones, no protein poison is liberated and no recognizable symptoms mark the progress of the infection. Still, in the development of the phenomena of infection the period of incubation is critical, and the rate at which the infecting virus multiplies during this time is an important factor in determining the final outcome. The more virulent the virus, the more rapidly does it multiply, and this means a larger amount of animal protein converted into bacterial protein. Rosenthal[9] has shown by means of his bacteriometer that the more virulent a bacterium the more rapidly does it multiply.

Somewhat abruptly there is a change in the behavior of our inoculated guinea-pig. The hairs behind the ears begin to stand out and soon the entire coat becomes rough. It no longer eats, but retires to one corner of the cage and seems to be in distress. Slight pressure over the abdomen elicits evidence of pain, and the temperature begins to fall and continues to do so until death. In case of recovery a rise in temperature is the first evidence of improvement. The characteristic lesion is a marked hemorrhagic peritonitis.

This somewhat abrupt change in the condition of the animal marks the end of the period of incubation and the beginning of the active disease. The animal cells have become sensitized and are now pouring out a specific ferment which digests the bacterial proteins. In the active stage of the disease, the animal cells supply the ferment, the bacterial proteins constitute the substrate, complex cellular proteins are split into simpler bodies, the process is analytic and destructive, the protein poison is liberated, the symptoms of disease develop and life is placed in jeopardy.

It must not be understood that the processes that characterize the period of incubation and those that develop the active stage of the disease are separated by a well-marked time line and that the former wholly cease before the latter begin. This is not my understanding at all. Growth may be extending in one part of an organ, such as the lungs in pneumonia, while the destructive process predominates in another part. Only those cells with which the bacterial protein comes in contact are sensitized, and sensitization may be quite localized.

We take a second guinea-pig and inject into its peritoneal cavity a fatal quantity of the dead cellular substance of the colon bacillus. In this experiment we cut out one of the factors in the development of an infection, the growth of the bacillus in the animal body. This has been done *in vitro* and we inject into the peritoneal cavity enough of the cellular poison to kill. When this is done the animal remains quite well for about four hours, after which it shows symptoms identical with those manifested by its fellow which had been inoculated with the living culture. The lesions induced in both animals are the same. We conclude from this experiment that a period of about four hours is required to sensitize the cells of the guinea-pig sufficiently to enable them to begin the cleavage of the bacterial protein and carry this process to the production of enough poison to so disturb the health of the animal that the effects come within the range of clinical observation. There are involved in the process of the incubation of an infectious disease two important functions: One is the growth of the invading organism and the other is the sensitization of the body-cells. The more rapid the growth of the virus and the greater the amount of foreign protein accumulated at the time when sensitization becomes effective, the more disastrous are the results. Fortunately, particulate proteins, like bacteria and protozoa, are not so effective in the production of sensitization as are the simple, soluble proteins, such as those of blood-serum. Cell penetration is probably essential to the most perfect sensitization. Equally fortunate is it that the living cellular proteins are not so suddenly disrupted by the ferments produced by the body-cells as are the simple, soluble proteins.

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[9] Rosenthal: Arch. f. Hyg., 1913, lxxvi, 81.

To a third guinea-pig we administer a fatal dose of the free protein poison split off from some protein molecule either by chemical agents or by a ferment acting *in vitro*. In this instance we cut out the whole period of incubation, and the animal dies as quickly as it would from a dose of hydrocyanic acid. The infective agent has been grown artificially, the cleavage has been effected *in vitro* and the ready-formed poison acts with the promptness that characterizes the action of other deadly chemical poisons. These experiments have been repeated in my laboratory many times with varied proteins, living and dead, particulate and in solution, of bacterial, vegetable and animal origin, and with their split products. If I have correctly interpreted them, they throw much light on the phenomena of infection; but before we question the correctness of the interpretation we must proceed with our experimentation.

The older literature shows that a few observers have long known that the parenteral introduction of diverse proteins is followed by the development of fever. There is an article by Gamaléia,[10] written twenty-five years ago, to which I wish to call attention. The title of the article is interesting, "The Destruction of Microbes in the Febrile Organism." Gamaléia showed that fever followed the parenteral introduction of dead as well as living bacteria, either pathogenic or non-pathogenic. He concluded from these experiments that fever is not a phenomenon of bacterial growth in the body. He found that the less virulent the infecting organism the higher and the more persistent is the fever. A rabbit inoculated with the anthrax bacillus has a fever for only a few hours, when the temperature falls and death results, while one inoculated with the second vaccine has a fever of three days. When a rabbit is inoculated with a highly virulent anthrax bacillus, it may show little or no elevation of temperature, and dies within from five to seven hours. Gamaléia made similar experimental observations on other diseases and came to the following conclusion: The febrile process is not a result of the action of the bacteria, but, on the contrary, is due to a reaction of the organism against their presence and results in their destruction. I feel that I am fully justified in offering these experiments, made a quarter of a century ago, as supporting my theory or explanation of the phenomena of infection.

In 1909 it was shown by work in my laboratory[11] that fever could be induced experimentally in animals by the parenteral administration of proteins of diverse origin and structure, and that by modifying the size and frequency of the dose the type of the fever could be determined at will. We produced an acute fever, the temperature rising to 107 and terminating fatally in a few hours, remittent and intermittent and continued fevers. The last-mentioned furnished charts in no way distinguishable from those of typhoid fever. Not only can fever be induced, but its accompaniments also. In continued fever, thus produced, there is increased nitrogen elimination, emaciation, loss of appetite and lassitude and decreased urinary secretion. These experiments were amplified[12] and have been confirmed by Friedberger and others. Protein fever, which includes practically all clinical fevers, is a result of parenteral protein digestion. In this process the animal cells supply the ferment and the foreign protein serves as substrate. The foreign protein may be living or dead, formed or without form. It may be detached or dead tissue from the animal's own body, as after burns. It may be absorbed from some mucous surface, as in hay-fever. It may be introduced artificially, as in serum disease. It is usually a living protein, as in the infectious diseases.

There are two kinds of parenteral proteolytic ferments, non-specific and specific. The former are normally present in the blood and tissues, especially in the first. They differ in kind in different species and in amount and efficiency in different individuals. Their function is to digest and dispose of foreign proteins that find their way into the blood and tissues. Within limits they are general proteolytic ferments, as are those of the alimentary canal; but the variety of proteins on which they act is more limited. They constitute the most important factor in racial and individual immunity. We are immune to most bacteria and protozoa, not because they do not elaborate poisons, for every protein molecule contains its poisonous group, but because they are destroyed by the general proteolytic enzymes as soon as they enter the body and are not allowed to multiply. These non-specific parenteral ferments are probably secretions of certain specialized cells, as the leukocytes. Under normal conditions these enzymes are capable of digesting those proteins on which they act only in small amounts; but the cells which elaborate them may be stimulated in their activity. Whether or not these enzymes become specific when brought into contact with certain proteins has not been determined. The immunity secured by these enzymes is limited in extent and transitory in duration.

The specific, parenteral proteolytic enzymes are not normal products of the body-cells, but are brought into existence under the stimulation of those proteins, introduced into the blood and tissues, which on account of their nature or amount, escape the action of the non-specific ferments. A protein introduced into the blood and not promptly and fully digested by the non-specific enzymes is discharged from the blood-current and deposited in some tissue, the cells of which after a time develop a specific ferment which splits up this protein while it is not capable of digesting any other. For certain proteins there are certain predilection organs and tissues in which they are stored, either exclusively or most abundantly: the pneumococcus in the lungs, the typhoid bacillus in the spleen, mesenteric and other glands, the viruses of the exanthematous diseases in the skin, etc.

For the development of the specific proteolytic ferments time is required, and this varies with the sensitizing protein and probably with the tissue in which it is deposited. The development of these ferments necessitates changes in the chemical constitution of the protein molecules of the body-cells, and in this way the body-cells acquire a new function, which subsequently is brought into operation only by that protein to which its existence is due. As a result of this rearrangement in molecular structure the cell stores up a specific zymogen which is activated by contact with its specific protein.

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[10] Gamaléia: Ann. de l'Inst. Pasteur, 1888, ii, 229

[11] Vaughan, Victor C.; Wheeler, Sybil May, and Gidley, William F.: Protein Fever; the Production of a Continued Fever by Repeated Injections of Protein, The Journal A. M. A., Aug. 21, 1909, p. 629.

[12] Vaughan, Cumming and Wright: Ztschr. f. Immunitätsforsch., 1911, ix, 458.

Whether or not the products of digestion with the non-specific ferments and those elaborated by the specific enzymes are identical remains to be ascertained. The presence of a poisonous group in the protein molecules is disclosed in both enteral and parenteral digestion as well as by cleavage with chemical agents or enzymes *in vitro.* In enteral digestion the poison is most apparent in the peptone molecule, which is large, complex and non-diffusible. Further action of the alimentary enzymes splits the peptone into harmless amino-acids. The cleavage of proteins by chemical agents is a crude process in which much of the poison is destroyed. When the poison is formed in the alimentary canal the animal is protected from its injurious effects by the walls and by its ultimate destruction. When the poison is liberated parenterally there are no protecting walls.

There are certainly other causes of fever, but the fever of the infectious diseases results from the parenteral digestion of the infecting agent by specific secretions elaborated by the body-cells; it is a phenomenon of the disposal of foreign and harmful material and it must be regarded as beneficent. There is a point, however, above which it becomes a danger *per se.* In parenteral digestion the following sources of heat production must be evident: 1. unaccustomed stimulation and consequent increased activity of the cells which supply the enzyme must be the source of no inconsiderable increase in heat production. 2. The cleavage of the foreign protein increases the liberation of heat. 3. The reaction between the product of the digestion and the tissues must lead to increased heat production. I regard the first and last of these as the more important sources of the overproduction of heat in the infectious disease. When the poison is liberated rapidly and abundantly the temperature falls and death is imminent.

There are many conditions which affect the course of a fever, and some of these may be mentioned. Some viruses sensitize more quickly and thoroughly than others. It is probable that the living cells, so long as they are living, do not sensitize. Some of the virus protein must go into solution before cell penetration, which seems essential to thorough sensitization, can occur. A living colon bacillus of not more than twenty-four hours' growth, when injected intraperitoneally into a guinea-pig, requires about ten hours to sensitize. With the dead bacillus the time is reduced to half, while with old autolyzed cultures in which the sensitizing group is already in solution the time is still further shortened. Some pathogenic organisms, like the tubercle bacillus, have been so long parasitic that they have learned to protect themselves by deposits of fats and waxes. In this way they are probably protected to some extent against the destructive ferments elaborated by the body-cells. In all acute infections the destruction of the invading organism is modified and delayed by the altered relation between substrate and ferment and the accumulation of fermentative products. All these questions are but little understood and their solution must await further research.

I have given the new theory of the phenomena of infection as I understand it. The attack on these problems has only commenced and I do not hold that my opinions possess in every particular the force of demonstrated facts. If they prove to be provocative of further and more exact research I shall feel that they have been justified.

EVIDENCE FOR AND AGAINST THE THEORY

I shall now take up some of the facts for and against this theory and try to make impartial statements concerning them. In the first place it is true, as Doerr states, that it has not been conclusively demonstrated that the poison formed *in vitro* is identical with that elaborated *in vivo.* In fact, we do not know the exact nature of the poison produced by the disruption of the protein molecule by chemical agents. I hold that this poison is a group in the protein molecule. Others question this and hold to the endotoxin theory as first elaborated by R. Pfeiffer. So long as the poison was obtained only from complex proteins such as bacterial cellular substances, the mixed proteins of blood-serum and egg-white, which is known to be a protein mixture, my opponents had an argument which I could not meet, but some proteins, such as edestin, are believed by all students of protein chemistry to be chemical units, just as much so as crystallized bodies. We take edestin and split it into poisonous and non-poisonous portions. We inject the former into a fresh guinea-pig and it kills the animal promptly after the development of certain definite and well-marked symptoms. We take another fresh guinea-pig and sensitize it to edestin and after a proper interval we give the same animal a second injection of edestin. This animal develops the same symptoms in the same time and in the same sequence as the other, and the post-mortem findings in the two are identical. We know that the edestin injected into the animal contains the protein poison which we may liberate *in vitro.* It seems that the only conclusion justifiable from these facts is that in both instances the animal dies from the same poison and that by the process of sensitization the capability of splitting up the edestin molecules has been developed. Besides, the blood-serum of an animal sensitized to egg-white will, when incubated with egg-white in proper proportion *in vitro,* produce a poison which kills a fresh animal with the same symptoms and with the same post-mortem condition as are developed on reinjection into a sensitized animal, while the blood of a fresh animal has no such action on egg-white *in vitro.* From these facts I draw the following conclusions: 1. The protein poison is a group in the protein molecule. 2. In a sensitized animal's blood-serum there is some agent capable of splitting up a protein and thus liberating a poison, and that something does not exist in the blood-serum of the unsensitized animal. If there be a fallacy in this reasoning I cannot see it. If it should be found that edestin and other proteins, believed to be chemical units, are not such, then my first conclusion is not wholly justified.

I do not assert that the protein poison formed *in vitro* by the chemical disruption of the protein molecule is identical with that elaborated *in vivo* by specific ferments, but that they are closely related chemically is inferred from their physiologic action. As I have stated, we do not know the chemical structure of the protein poison. We are certain that it is not an amino-acid, although it may be closely related to one of these. In its action the protein poison seems quite similar if not identical with the histamin of Barger and Dale. It will probably be found that the protein molecule contains a whole spectrum of poisons, one differing from another in some slight alteration in structure.

Years ago R. Pfeiffer demonstrated that cholera, typhoid, colon, and many other bacilli secrete no toxin, but that the cellular proteins of these organisms are poisonous. In the abdominal cavities of animals previously treated with these bacteria, when new injections are made, the bacterial cells dissolve like sugar or salt in water, but notwithstanding this destruction of the bacteria the animal dies. Indeed, death is due to the destruction of the bacterial cells and the consequent liberation of the protein poison. When the amount of cellular substance is insufficient to furnish a fatal dose of the poison, the animal survives and escapes infection. I regard Pfeiffer's phenomenon as the basis of lytic immunity, and it must be evident that this form of immunity is not in any way comparable to that induced by toxins. Pfeiffer was certainly wrong in explaining this phenomenon on the supposition that the bacterial cell contains an endotoxin. The harmful content of the cellular substance is not a toxin in the sense that this term is now used, but a poison.

The next important work done along this line was that of Weichardt, who found that the blood-serum of rabbits previously treated repeatedly with placental proteins dissolves the same both *in vitro* and *in vivo* with the liberation of a poison. This experiment was a forerunner of Abderhalden's test for pregnancy.

Schlecht[13] found that on reinjection of a sensitized animal the esosinophils are increased, and Chancellor[14] finds that there is also an increase in the same corpuscles on the injection of the protein poison. So far as it goes, this indicates that the poison liberated in anaphylactic shock and that formed from proteins by my method are similar in their effects.

The blood of an animal killed by anaphylactic shock coagulates slowly, while that of animals killed with the protein poison prepared by chemical agents coagulates in the usual time. This might be regarded as evidence that the poison formed *in vivo* and that prepared *in vitro* are not identical; but the agent which leads to retardation of coagulation may be one of the nonpoisonous groups liberated on the cleavage of the protein molecules in the body. The protein poison obtained by chemical means from certain proteins, such as the tubercle bacillus, however, does prevent the coagulation of the blood. This is the first evidence that I have found of any dissimilarity in the action of the protein poison as obtained from different proteins. It has been shown by Loewitt[15] and Waele[16] that a non-coagulable blood is not always in evidence in anaphylactic shock.

The fundamental fact in the work recently done by Abderhalden, the full import of which we cannot yet determine, rests on the development of ferments as a result of the parenteral introduction of foreign proteins. How strictly specific these ferments are is a matter which must be measured by larger experience.

Weinland first showed that invertase is developed in dogs by the parenteral introduction of cane-sugar, and this work has been amplified by Abderhalden, Heilner and others, until it has been demonstrated that the cells of the animal body can be trained to elaborate specific proteolytic, amylolytic and lipolytic ferments. The presence of specific ferments in the blood-serum is now being used in the diagnosis of pregnancy, cancer and dementia praecox.

If I correctly interpret the recently reported experiments of Thiele and Embleton,[17] they furnish strong evidence in favor of the theory which I have formulated. These investigators have developed the following points:

1. When the normal protective ferments of the animal body are inhibited in their activity, bacteria, which, under normal conditions are non-pathogenic, become pathogenic. It is well known that ferment activity may be retarded by hypertonic saline solutions. When such non-pathogenic micro-organisms as *Sarcina lutea* and *Bacillus prodigiosus* and others are suspended in from 2 to 5 per cent. salt solution and injected into the abdominal cavity of the guinea-pig, the normal lytic ferment of the animal is inhibited; the micro-organism multiplies and kills. In other words, a harmless bacterium is converted into a fatal one by holding in abeyance the normal protective function of the body. Years ago Buchner demonstrated that the alexin of blood-serum is highly sensitive to salt content and by variations in this the activity of the ferment may be hastened, lowered or wholly arrested. In this connection it may be interesting to record the fact that some physicians believe that a heavily salted diet predisposes to pneumonia.
2. The blood and exudates of animals dying of infectious diseases are shown by the application of the ninhydrin and biuret tests to their diffusates to contain protein-cleavage bodies which are not present under normal conditions. These proteoclastic bodies could hardly have their origin elsewhere than in the cleavage of the bacterial proteins.
3. These cleavage bodies found in the blood of animals dying of the infectious diseases develop typical anaphylactic shock in fresh animals when injected intravenously.

Edmunds[18] has shown that the physiologic action of my protein poison in dogs and cats is essentially the same as that manifested in sensitized animals on reinjection, and the same has been shown by several observers to be true in guinea-pigs. While identity in physiologic action does not establish chemical identity, it certainly suggests similarity in chemical structure.

Acute anaphylactic shock is so striking in its manifestations that it has delayed studies of chronic protein intoxications, in which, I doubt not, there lies a rich and profitable field of research. Every foreign protein finding its way into the blood and tissues is more or less injurious to the body-cells. It may be directly harmful or it may act through its split products. When it is repeatedly introduced, the body-cells become sensitized and split it up. When the intervals between the introductions are short there can be nothing like anaphylactic shock, but parenteral digestion has been established and the protein poison is liberated, possibly not in quantity sufficient to develop recognizable symptoms, but there results a chronic poisoning. If the theory which I have developed be true, the lesions of the infectious diseases are, in part at least, due to protein poisoning. Moreover, the disease needs not be an infectious one in order to lead to either acute or chronic protein poisoning. The absorption of undigested, or partially digested proteins from the alimentary canal may be quite as harm-

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13. Schlecht: Arch. f. exper. Path. u. Pharmakol., 1912, lxvii, 137.

Chancellor: Ztschr. f. d. ges. exper. Med., 1913, ii, 29.

Loewitt: Arch. f. exper. Path. u. Pharmakol., 1912, lxviii, 83.

Waele: Ztschr. f. Immunitätsforsch., 1913, xvii, 314.

17. Thiele and Embleton: Ztschr. f. Immunitätsforsch., 1913, xix, 643, 666.

18. Edmunds: Ztschr. f. Immunitätsforsch., 1913, xvii, 105; also unpublished research.

ful as inoculation with a living virus. It seems to me that we are now quite justified in speaking of the "albuminal diseases," including under this title all health disturbances due to the parenteral introduction of foreign proteins, be they living or dead, organized or unorganized. The description given by Richet of his experiments on anaphylaxis in dogs suggests strikingly cholera nostras in man. Schittenhelm and Weichardt induced an "enteritis anaphylactica"; in like manner, Friedberger[19] developed pneumonia in sensitized guinea-pigs by spraying horse-serum into the trachea. This has been confirmed by Ishioka,[20] and a careful histologic study of the lungs in this condition has been made by Schlecht and Schwenker.[21] It seems highly probable that we have been wrong in believing that all disease conditions are due to infections, many of which are secondary. In this connection I wish to call attention to the valuable research reported by Longcope,[22] who has induced nephritis in rabbits and dogs by repeated injections of horse-serum and egg-white. When we consider the care with which nature protects the body-cells from foreign proteins by the radical changes wrought in their structure by alimentary digestion, and since we know that every unbroken protein contains a highly poisonous group, we should proceed cautiously in the employment of serum and vaccine therapy. The value of diphtheria and some other antitoxins has been demonstrated, and the good accomplished with these agents constitutes one of the great triumphs of modern medicine; but much of the protein therapy now so largely employed is without scientific justification. I have tried earnestly to so disrupt the protein molecules of certain pathogenic bacteria as to obtain a non-poisonous, sensitizing group which might be of value in either prophylactic or curative treatment, but without practical success. I have obtained from the cellular substances of the colon, typhoid and tubercle bacilli non-poisonous sensitizing proteins. Those from the colon and typhoid give some degree of immunity to subsequent inoculation with respective living cultures, but the protection thus secured is low in degree and ephemeral, while that from the tubercle bacillus fails to protect experimental animals. I must therefore report failure with glimpses of that will-o'-the-wisp which haunts the laboratory of every investigator. In view of the great number of cleavage lines that run through the large protein molecule, it is not surprising that the gem with perfect facets, which one seeks, is not revealed at the first stroke of the hammer.

The studies of Pick and Obermeyer[23] confirmed and amplified by Landsteiner and Prasek,[24] render it highly probable that the specificity of the protein molecule is closely connected with its aromatic group. Furthermore, it is worthy of note that gelatin, in which the aromatic group is wanting, is not a sensitizer. The above-mentioned investigators have shown that when certain substitutions are made in the aromatic group of a protein it loses its specificity. It is also noteworthy that gelatin does not yield the protein poison when disrupted by our chemical method. It seems, therefore, that gelatin contains neither the sensitizing nor the poisonous group.

I must protest against classifying the toxins and anaphylactogens together under the name of "antigen." This term should be reserved for the former. The anaphylactogens produce no antibody. Pick[25] very properly states that diphtheria toxin does not elaborate a precipitin, agglutinin or hemolysin, and that it is not an anaphylactogen. He proposes that the toxins be designated as monovalent antigens in contradistinction to the polyvalent antigens, which elaborate numerous immune bodies. I can see no reason for calling the anaphylactogens antigens. The anaphylactogens are colloids of highly complex molecular structure, while the latest research points to the non-protein character of the toxin. As Pick states: Faust finds the active principle of cobra and crotalus venom to be a nitrogen-free sapotoxin; Abel and Ford report that the hemotoxin of *Amanita phalloides* is a glucosid containing nitrogen and sulphur; Bang and Forssmann state that the hemolytic component of the red corpuscle is a lipoid; Jacoby states that he has obtained a nitrogen-free ricin, and according to Burckhardt the hemolysin of *Bacterium putidum* is non-protein. Likewise, tuberculin is an anaphylactogen, or not according to the preparation. When free from other constituents of tuberculoprotein it is neither anaphylactogen nor toxin, but a poison. Tuberculoprotein contains an anaphylactogen group, but this does not constitute the active principle of tuberculin, which is of relatively simple structure.

Many investigators have failed to sensitize animals with tuberculin, while most have succeeded with dead bacilli and with aqueous extracts. This is not surprising; indeed, it is what should have been expected. Tuberculin consists of digested, denatured proteins of relatively simple composition. It is well known that peptones and polypeptids do not sensitize. The protein poison, when detached from other groups in the protein molecule, sensitizes neither to itself nor to the unbroken protein. The fact that tuberculin does not sensitize, or does so imperfectly, raises a serious question as to its employment as a therapeutic agent. It is undoubtedly an excellent diagnostic agent because its relatively simple structure favors its prompt cleavage when injected into an animal already sensitized by the disease. But if it is not a sensitizer its therapeutic good effect, if it has any such effect, must be confined to the possible establishment of a tolerance to the tuberculopoison. Sensitization to tuberculoprotein can be induced by bacillary emulsions, with watery extracts, and with the non-poisonous residue. If the sensitization secured by the last-mentioned agents is as good as that produced by the others, it has the advantage of not containing any poison. On the other hand, if the therapeutic effect desired consists in the development of a tolerance to the poison, tuberculin must be preferred unless we should use the more completely isolated poison.

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[19] Friedberger: Deutsch. med. Wchnschr., 1911, xxxvii, 481.
[20] Ishioka: Deutsch. Arch. f. klin. Med., 1912, cvii, 500.
[21] Schlecht and Schwenker: Deutsch. Arch. f. klin. Med., 1913, cviii, 405.
[22] Longcope: Jour. Exper. Med., 1913, xviii, 678.
[23] Pick and Obermeyer: Wien. klin. Wchnschr., 1912, 1904 and 1906.
[24] Landsteiner and Prasek: Ztschr. f. Immunitätsforsch., 1913, xx, 211.
[25] Pick: Kolle and Wassermann Handbuch, Ed. 2, i, 698.

Reducing Weight.—The famous George Cheyne, who was a man of enormous bulk, reduced himself by dieting from 32 stones (448 pounds) to proper dimensions. One of his aphorisms says: "Every wise man after Fifty ought to begin and lessen at least the quantity of his Ailment, and if he would continue free from great and dangerous Distempers and preserve his Senses and Faculties clear to the last, he ought every seven years to go on abating gradually and sensibly, and at last descend out of life as he ascended into it, even into a child's Diet." Put in other words, it reads—We eat too much after 40 years of age.—Sir William Osler.

GASTRIC TETANY

WILLIAM L. RODMAN, M.D., LL.D.
PHILADELPHIA

I wish to make record of what to me was a very interesting case, and the only one of gastric tetany encountered in my practice. Notwithstanding the fact that Kussmaul called attention to gastric tetany in 1869, comparatively little advance was made in its treatment until a surgeon, Mayo Robson, took up its consideration in 1898. Various theories were given as to its causation. First, Kussmaul, who described the disease originally, declared it to be due to a desiccation of the tissues, very much as is seen in cholera or cholera morbus, from non-absorption of fluids. Then again, it was thought by Albu to be due to auto-intoxication following dilatation of the stomach, with or without pyloric stenosis. Germain Sée and others believed it to be due to reflex irritation or irritability of the nerves of the stomach, and, lastly, it was thought that the presence of foreign bodies in the stomach might initiate gastric tetany.

The case I wish to report was that of a young man, aged 31, a chemist in the Dupont Powder Works at Woodbury, N. J., sent to me by his physician, Dr. J. M. Marcy of Merchantville, N. J. He came to me in July, 1912, with as typical a history of duodenal ulcer as I have ever encountered. He, like nearly all such patients, habitually went with sodium bicarbonate in his pocket, of which he partook freely and frequently in order to obtain relief. Like many others he had become accustomed to washing out his stomach from time to time, especially at night, when gaseous distention, eructations and spasms of the stomach were usually more distressing than during the day. He had never vomited, however.

The diagnosis of a duodenal ulcer having been made by both his physician and myself, he was sent to the hospital and prepared for operation. The stomach was found to be markedly dilated, I should say almost twice the usual size, and a large ulcer was found, more than an inch in diameter, on the distal side of the pyloric vein. In addition to this large ulcer there were numerous rather fine adhesions to the gall-bladder and transverse colon. I mention this because it may be that they had some influence (I question it, however,) in increasing the obstruction at the pylorus and producing a consecutive dilatation of the stomach. A no-loop posterior gastrojejunostomy was done, and for ten days his convalescence was absolutely uneventful. I never saw a patient do better in my life. So well was he on the tenth day that I told him he could leave his bed and soon thereafter go home. After being up all day walking about the hospital and feeling very well, he had a restless night and suffered a recurrence of the spasms of the stomach, of which he had complained before the operation, and which, he said, had frequently awakened him during the night. On the eleventh day following the operation, in the morning, about 9:30, he had a convulsion, which began in the fingers, soon extended to the forearms and also to the feet and legs; but there was no involvement of the arms, the thighs, or the muscles of the body, so the nurse who was present testifies. The resident physician saw him just as he was coming out of the convulsion. Both he and the nurse said that the patient's mind was absolutely clear throughout the attack, but he complained of "terrible weakness," and there was a marked acceleration of the heart-action with embarrassment of respiration.

The following day about the same time he had a very severe convulsion, which the house-surgeon fortunately witnessed from the beginning. The fingers were flexed at the metacarpophalangeal joints and extended at the tips, with the thumbs adducted, making a typical accoucheur's hand. The spasms of the forearms soon extended to the arms and of the legs to the thighs. The muscles of the abdomen also became involved, and the resident said that wherever he touched the man the muscles seemed to become as hard as steel. The mind was clear throughout the attack, but the patient complained greatly of weakness afterward. The pulse was 130; respiration was greatly embarrassed, although he was not cyanotic. A characteristic feature of this convulsion, and a subsequent one which I happened to witness, was that the face was drawn to the left side, the eyebrow was elevated, and the eyeball rolled up under the lid, so that only the conjunctiva could be seen. He had five convulsions in four days; then they ceased. I think their disappearance was largely due to the frequent and copious lavage of the stomach.

The interesting point in connection with this case is that the gastric tetany came on eleven days after a successful drainage operation, and so far as I know, it is the only one on record. Nearly all of the cases reported as having received surgical treatment were relieved promptly by a drainage operation, either a gastro-enterostomy, a pyloroplasty or a pylorectomy. Only a few have been treated by the latter method.

My patient made a satisfactory recovery, leaving the hospital in thirty-one days after the operation, or twenty days after the convulsions began, and is perfectly well to-day.

It is interesting to note that in practically every one of these cases that has been closely observed, either at operation or at necropsy, there has been a dilatation of the stomach, and this has been consecutive either to a benign or a malignant obstruction at the pylorus. In the vast majority of instances the obstruction has been benign, either a fresh ulcer or a cicatrix on the base of an old ulcer, but always there has been marked dilatation of the stomach. In a few instances pressure on the pylorus, the duodenum or both, seems to have been caused by a distended gall-bladder, by a large gall-stone, pancreatic cyst, or by some tumor making pressure in the vicinity of the pylorus and causing a consecutive dilatation of the stomach.

As marked evidence of this I will cite the report of a necropsy which was taken from a case-report in the *Proceedings* of the Pathological Society of New York.

"The patient, aged 44, was taken ill two days before his death. While occupied in a stable he was taken with a sharp pain in the abdomen, and when help arrived he was stretched on the floor, rigid. His head could be moved, but not his legs. He was said to be semiconscious. After three-quarters of an hour the stiffness of the legs and arms disappeared. The patient refused to be taken to a hospital, and remained in the stable until 4 or 5 o'clock in the afternoon, when he was taken with another sharp pain in the stomach, and passed into a condition of general rigidity, the arms drawn up over his head, and the legs spastic. About 8 o'clock in the evening he was taken with a similar seizure. He was then removed to St. Vincent's Hospital. Dr. Stumer made a diagnosis of gastric tetany. The patient was pulseless; respiration was slow, with respiratory oppression. After entering the hospital there appeared a general spasticity of the abdomen and extremities, at times accompanied by severe pain. After four hours the spasm relaxed, and during this time the pulse became almost normal. The temperature was subnormal. The abdominal distress persisted during the relaxation. He became able to speak, but not intelligently, nor enough to give an absolutely correct statement of his trouble and the previous status of his illness. After six hours he was again seized with an attack, accompanied by great respiratory oppression.

"After one and a quarter hours he died, apparently from asphyxia, with no relaxation of the muscles. An autopsy was performed. The stomach contained 4.5 liters of fluid. The musculature of the stomach was very much thickened, especially along the anterior border. There was no evidence of any change in the mucous membrane. The thickening appeared to be due not entirely to an edema, but rather to a muscular hypertrophy, and an increase in connective tissue, particularly in the submucosa. At the pyloric end of the stomach was an old ulcer which had led to marked constriction of the pyloric opening. The esophagus was longer than normal. *The position of the stomach in the body* was not normal. There were adhesions to the transverse colon, a long band extending from the omentum to the tip of the bladder, pulling the stomach over from its normal position." The parathyroid glands were not examined, according to the statement of the pathologist.

None of the theories as to the etiology of this disease are entirely satisfactory, but Mayo Robson, that very astute clinical observer, believes that gastric tetany is due to an absorption of the stagnant contents of a *dilated stomach which poisons the nerve centers* and thereby increases reflex irritation.

The only case on record of marked gastric tetany due to a foreign body is reported by Warbasse. It occurred in a human ostrich, a man who swallowed knives, screws, pins, tacks, nails, watch-chains, anything he could lay his hands on. The weight of the metallic substances pulled the stomach down, so as to cause a *kinking* at the pylorus, resulting in obstruction. This patient was operated on successfully by Warbasse, and it seems that the obstruction was the cause of the tetany, and that it, in turn, was produced by the sagging of the stomach, due to the heavy substances which the patient had swallowed.

The one point I wish to make is *that* the medical treatment of such cases is practically a failure. Nearly all of the patients die, at least 88 per cent., according to Brown and Engelbach,[1] who have most exhaustively investigated the subject and given the latest and most complete statistics. Furthermore, surgical treatment is usually successful. This treatment consists of a drainage operation to relieve the overdistended and irritable stomach. It should be accomplished by a gastro-enterostomy, pyloroplasty or pylorectomy, according to the nature of the lesion causing obstruction. In simple, cicatricial stenosis of the pylorus, gastro-enterostomy satisfactorily meets the indications, whereas in fresh ulceration or malignant disease causing obstruction, pylorectomy should be preferred. When due to foreign bodies, gastrotomy and their removal of course, should be practiced.

Frequent and thorough lavage of the stomach does a great deal of good in lessening the number and severity of the gastric spasms and general convulsions, but evidently does not prevent them, as my case conclusively shows. The patient was accustomed to washing out his stomach before operation, and it was thoroughly practiced twenty-nine times after the convulsions *began and before the patient* left the hospital. It was amazing how much his stomach would contain when lavage was practiced; always pints and occasionally quarts of a thin, greenish sour and acid secretion would usually be removed before each washing, which was always kept up until the returning fluid was absolutely clear. It has been said, and I believe rightly, that incomplete lavage does more harm than good, really increasing, as it does, the irritation.

How a stomach with two openings, the patent pylorus and a working gastro-enterostomy more than 2½ inches in width, for I always make a large opening, and at the most dependent part of the stomach, could become so distended with fluid is more than I can comprehend. Naturally, I first thought of obstruction due to a kink in the jejunum, but this was quickly eliminated for two reasons: The bowels acted daily, and when purgatives were administered visible evidence of them was had in the stools very quickly. Moreover, the gastric contents, expelled voluntarily and withdrawn by the tube, showed, at no time, the slightest trace whatsoever of feces, but little bile, and consisted almost wholly of altered gastric secretion. It was highly acid, thin, and as green as grass. Gallons of sterile water were used at each lavage before the fluid returned perfectly clear.

I made no attempt to bring on convulsions by practicing Trousseau's, Erb's and Chvostek's methods of doing so. The diagnosis was plain enough, and the spasms when they came of themselves were too painful to reproduce unnecessarily. I was too glad to see them disappear even to consider doing anything which either intensified or made them more frequent.

While, as already indicated, it is my belief that every case of gastric tetany demands immediate surgical treatment, as in this way only can the dilatation, which is consecutive to pyloric stenosis, be effectually overcome, I am also of opinion that too optimistic statements have been made concerning both the immediate and remote effects of surgical intervention, as the most *severe cases may be fatal in spite of it. In those denominated* as of the third degree by Trousseau, in which the muscles of the pharynx, larynx and tongue, in addition to the musculature of trunk and limbs are involved, it seems reasonable that nothing can be depended on to give relief. My case plainly indicates that tetany may supervene eleven days after a perfectly satisfactory drainage operation has been done, and that it may yield to thorough and repeated gastric lavage with rather full doses of antispasmodics. In conjunction with the above treatment the withdrawal of all starchy, saccharin or other food likely to cause fermentation, should be rigorously insisted on. In the mildest cases of the first degree, in which the spasms are limited to the muscles of the fingers, hands and forearms, and there are no decided toxic manifestations, careful feeding, purgation and gastric lavage may suffice; but, with greater evidences of *toxemia* and *an extension of the tetanic* spasms to all of the limbs, trunk and head, a further postponement of surgery seems unwise and will, perhaps, lead to a fatal result. Buttermilk was the ideal nourishment in the case here reported. Everything else apparently caused fermentation, soon followed by nausea, eructations and vomiting, conjoined with depression and evidences of *general toxemia.*

I would refer those especially interested in the literature of this subject to the able and exhaustive articles by Warbasse,[2] Cunningham,[3] and John Young Brown.

2106 Walnut Street.

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[1] Brown and Engelbach: Am. Jour. Obst., 1908.

[2] Annals of Surgery, 1904.

[3] Annals of Surgery, 1904.

Beginnings of Surgery.—The commencement of surgery dates from the moment when instruments of daily use, the weapons of civilization, were used as means of healing. Such were, in earliest times, flints, thorns, splinters of wood, shells, fishbones, pointed bones, teeth, horns, etc. With such means foreign bodies could be extracted, abscesses opened, scarification and blood-letting performed. To the instruments of daily life were added its manipulations as assistance to the art of healing; for instance, the means of mending broken weapons served as a pattern for primitive treatment of fractures.—Neuburger, History of Medicine.

THE EFFECT OF TARTRATES ON THE HUMAN KIDNEY *

WILBER E. POST, M.D.
CHICAGO

In *1912* Underhill[1] published his discovery of a severe form of renal degeneration or "nephritis" in rabbits and dogs produced by the subcutaneous administration of sodium tartrate. This publication was followed by three papers regarding experimental tartrate nephritis by F. P. Underhill, H. Gideon Wells and Samuel Goldschmidt.[2] Their observations are to the following effect:

1. Nephritis with impairment of renal secretory activity and extremely severe degeneration or necrosis of the convoluted tubules may be caused by the subcutaneous administration of less than 0.5 gm. of sodium tartrate to phloridzinized fasting rabbits weighing from 2,000 to 2,500 gm. The lesions seem to involve only the tubular epithelium, the glomerules being practically unaffected.

2. In similar manner nephritis may be caused by tartrate in somewhat larger doses when administered to fasting animals without phloridzin.

3. Rochelle salt administered by mouth to fasting animals causes nephritis: 8 gm. given to a 1,660-gm. rabbit caused fatal result; 5 gm. given to a 1,480-gm. rabbit caused no apparent ill effects; but histologic examination of the kidneys showed granular degeneration of the epithelium of the tubules.

4. When tartrates are given by mouth to well-fed rabbits, the salt is not so toxic as when similarly administered to fasting animals. In fact, after the administration of 1 gm. of Rochelle salt to a well-fed rabbit weighing 2,000 gm. the urine increased from 54 c.c. to 150 c.c. in twenty-four hours.

5. Sodium carbonate, sodium acetate and sodium citrate in quantities sufficient to maintain alkalinity of the urine in a fasting rabbit (2 gm. per day) cause no renal changes.

6. When the subcutaneous administration of tartrate *in small doses (0.5 gm. tartaric acid per kilogram)* is accompanied by the administration by mouth of sodium carbonate or sodium citrate, the renal changes are not so pronounced as without the alkalinizing salts. When large doses of the tartrate are given the alkali proved beneficial, as shown in the nitrogen elimination and in the histopathology of the renal tissues.

Shortly after these papers were published there also appeared a paper by Pearce and Ringer,[3] which corroborated the results described above, and called particular attention to the fact that in dogs the renal injury may be reduced by the production of a diarrhea by the tartrates, which prevents their absorption.

As expressed by the first-named authors, particular interest in the investigation of the influence of tartrates on kidney structure and kidney function is due to the wide-spread employment of tartrates in articles of diet, and the general employment of Rochelle salt as a purgative. The question was suggested by Dr. Wells: Are there injurious effects produced in the human subject, especially in nephritis, by the use of tartrates? The question is made more pointed by the suggestions of Fischer[4] in his works on edema and nephritis, that t trates reduce edema, and may relieve nephritis.

Observations were accordingly made on seve patients in the service of Dr. Frank Billings and oc pying the Sprague Institute beds in the Presbyter Hospital. Potassium and sodium tartrate was given mouth to ordinarily well-fed adults. The dose v from 1 to 6 drams, the average dose authorized by U. S. Pharmacopeia being 2 drams. Each voiding urine was put into separate clean sterile bottles a placed at once in an ice-box. The test for albumin v by the use of acetic acid and potassium ferrocyan The hydrogen ion concentration was determined, some of the cases, by means of indicators. The resu of a few of the observations are summarized in following protocols:

Case 1.—C. S., man, aged 57. Moderately advanced arte sclerosis. Urine examinations:

December 31, 1912, noon: No albumin.
4 p. m.: Sp. gr. 1.011; *faint trace nucleo-albumin; oc* sional hyaline and hyalogranular cast, occasio leukocyte. Reaction neutral to paranitrophenol.
Jan. 1, 1913, 2:40 a. m.: Sp. gr. 1.009; *faint trace ser albumin*; sediment same. Reaction neutral to metl red.
6 a. m.: *Rochelle salt,* 2 drams given.
10:30 a. m.: Sp. gr. 1.013. *No albumin.* Few cas Reaction neutral to rosolic acid.
2 p. m.: Sp. gr. 1.015. *No albumin.* Sediment sa Neutral to rosolic acid.
6:30 p. m.: Sp. gr. 1.015. No albumin. Sediment sa Neutral to rosolic acid.
January 2, 3 a. m.: Sp. gr. 1.015. *Faint trace nucl albumin.* Sediment same plus numerous spermatoz reaction same.
7 a. m.: Sp. gr. 1.015 *Faint trace nucleo-albumi* occasional hyaline cast; neutral to rosolic acid.
12:15 p. m.: Sp. gr. 1.007; *distinct trace serum albumi* occasional hyaline cast; neutral to rosolic acid.
4:50 p. m.: Sp. gr. 1.007; *faint trace nucleo-albumi* occasional hyaline cast; neutral to rosolic acid.
January 3: Seven specimens; two showed faint tr nucleo-albumin, others no albumin. All neutral rosolic acid; sediments same as above.
January 4, 5 a. m.: Sp. gr. 1.010. No albumin; sedime same; neutral to methyl red.
6 a. m.: Rochelle salt. Three drams given; four spe mens urine voided during day; none showed albumi sediment same; all neutral to rosolic acid.
January 5 and 6: No albumin in any specimen.
January 9, 3 a. m.: Faint trace nucleo-albumin; oth specimens during day showed no albumin.
January 10, 2 a. m.: Sp. gr. 1.004; no albumin.
6 a. m.: *Rochelle salt,* 6 drams.
6:30 a. m.: Sp. gr. 1.002. *Distinct trace nucleo-albumi* other specimens during day showed no albumi sediment remained about same.

Case 2.—G. K., man, aged 37. Acute bronchitis.
Nov. 12, 1912, 3:30 p. m.: Sp. gr. 1.021; faint trace nucle albumin. Sediment; urates ++, occasional cylindroi
November 13, 11:35 a. m.: Sp. gr. 1.018; faint trace nucle albumin; numerous cylindroids.
4 p. m.: No albumin.
November 16, 6 a. m.: *Rochelle salt,* 2 drams.
1:50 p. m.: Sp. gr. 1.015. No albumin. Sedimen numerous cylindroids.

Case 3.—Mrs. E. P. Hysteric hemiplegia, right-sided pye itis *(interval).*
Nov. 22, 1912, 8:50 p. m.: Sp. gr. 1.008; faint trace nucleo-albumin sediment; moderate number of leukocytes; bacilli, neutral to rosolic acid.

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* From the Otho S. A. Sprague Memorial Institute Laboratory of Clinical Research, Rush Medical College.

[1] Underhill, F. P.: Jour. Biol. Chem., 1912, xii, 115.

[2] Jour. Exper. Med., 1913, xviii, 317, 322 and 347.

[3] Pearce, R. M., and Ringer, A. I.: Jour. Med. Research, 1913, xxix, 57.

[4] Fischer, Martin H.: Oedema, New York, John Wiley and Sons, 1910, p. 116, etc.; Nephritis, New York, John Wiley and Sons, 1912, p. 135.

November 23, 5:50 a. m.: Sp. gr. 1.004; faint trace nucleo-albumin; sediment same; neutral to paranitrophenol.
6 a. m.: Rochelle salt, 2 drams.
9:25 a. m.: Sp. gr. 1.005; faint trace nucleo-albumin; sediment same; neutral to rosolic acid.
2 p. m.: Sp. gr. 1.012; tests same as at 9:25 a. m.

Case 4.—G. A., man, aged 29. Acute bronchitis.
Dec. 1, 1912, 6:15 and 8:15 a. m.: No albumin; few mucus threads; occasional leukocyte.
December 2, 4 and 6 a. m.: No albumin; sediment same as above.
6 a. m.: *Rochelle salt*, 2 drams.
10 a. m.: Faint trace albumin; numerous cylindroids; no casts.
1 p. m.: No albumin.
December 5, 6 a. m.: *Rochelle salt*, 3 drams.
7 a. m.: No albumin; sediment same as above.
2 p. m.: No albumin; sediment same.

Case 5.—H. K., man, aged 19. Lumbago; tonsillectomy.
Dec. 12, 1912, 2 a. m.: Acid to litmus; distinct trace albumin; few hyalogranular casts.
6 a. m.: Acid to litmus; no albumin; hyaline threads; occasional cast.
6 a. m.: *Rochelle salt*, 3 drams.
10:45 a. m.: Neutral to rosolic acid; distinct trace albumin; rather numerous leukocytes; occasional cast.
5:30 p. m.: Neutral to rosolic acid; very faint trace albumin; occasional cast.
7:40 p. m.: Neutral to rosolic acid; no albumin; sediment same.
December 13, 3:20 a. m.: Neutral to methyl red; faint trace nucleo-albumin.

Case 6.—T. R., man, aged 19. Acute tonsillitis.
Dec. 26, 1913, 6 a. m.: Sp. gr. 1.022; neutral to paranitrophenol; faint trace albumin; urates and calcium oxalate crystals.
11:30 a. m.: Practically same findings except no crystals.
8:30 p. m.: Sp. gr. 1.020; other findings same.
December 27, 6:30 a. m.: Sp. gr. 1.030; faint trace albumin; urates +.
6:30 a. m.: *Rochelle salt*, 3 drams.
1:50 a. m.: Sp. gr. 1.022; neutral to paranitrophenol; faint trace albumin; urates +.
3:55 p. m.: Sp. gr. 1.028; neutral to rosolic acid; no albumin; occasional cylindroid and hyalogranular cast.
December 28, 6:30 a. m.: Sp. gr. 1.003; neutral to methyl red; faint trace nucleo-albumin and serum albumin.
10:20 a. m.: Sp. gr. 1.018; neutral to paranitrophenol; no albumin.

Case 7.—J. F., man, aged 32. Osteo-arthritis. Was in hospital Dec. 8, 1912, to Nov. 19, 1913. In March, 1913, urinalysis showed no albumin or casts. In May, 1913, he had a rather prolonged attack of diarrhea with severe abdominal cramps and from three to six stools per day. June 3, 1913, the legs and scrotum were markedly edematous and there was free fluid in the abdomen and fluid in the right chest. Urinalysis showed a large amount of albumin and many hyaline and granular and epithelial casts. From August 11 to August 18 Rochelle salt, 2 drams, was given every morning, and from Sept. 3 to Nov. 11, 1913, the same dose was given every morning and sometimes another similar dose given in the evening. Although the case had seemed almost hopeless, the patient left the hospital much improved, with no fluid in chest or abdomen and very little swelling of the feet. The urine still contained a large amount of albumin and few casts. While one cannot say how much, if any, of his improvement was due to the Rochelle salt, yet he improved more after it was given than before. It certainly seemed not to harm him, although given over a long period.

Two patients with nephritis of pregnancy seen at St. Luke's Hospital with Dr. C. E. Paddock were given cream of tartar or Rochelle salt regularly. One case entirely cleared up before termination of pregnancy and the other showed marked improvement, and these results were very satisfactory from the clinical point of view. These are cited, not to describe the plan of treatment in nephritis or even to give evidence of any benefit of tartrates, but to show that the administration of tartrates, even in nephritis, is not inconsistent with good clinical results.

These illustrations are typical of conditions and results which were obtained in other instances. 1. They give no evidence indicating that potassium and sodium tartrate in ordinary doses given by mouth in the human subject will cause albuminuria or cylindruria. 2. There is no evidence to show that tartrates aggravate an existing nephritis. 3. The acidity of the urine, indicated by the hydrogen ion concentration, was as a rule less after the administration of tartrates.

These findings are entirely consistent with the results of Underhill, Wells and Goldschmidt, for the smallest toxic dose administered by mouth to the well-fed rabbit (2,800 gm.) was 10 gm. Rochelle salt. This would be equivalent to 6.7 ounces in a man weighing 150 pounds. Large doses of Rochelle salt would, of course, have an important element of safety in their cathartic action, which would prevent absorption, as Pearce and Ringer observed in dogs. Administered subcutaneously, the smallest toxic dose was 0.5 gm. per kilogram, or about 1 ounce in a man of 150 pounds. In the first place, it is hardly conceivable that 6.7 ounces of Rochelle salt would be administered by mouth to a patient; and in the second place, it should impress on us the increased toxicity of medication administered subcutaneously or intravenously. When tartrates are given in a certain sublethal dosage, Underhill, Wells and Goldschmidt further noted that the urine of animals becomes pale, alkaline, and larger in quantity, which conforms in the first two respects to our own observations in man.

122 South Michigan Avenue.

CHRONIC ARTHRITIS

LINDSAY S. MILNE, M.D.
KANSAS CITY, MO.

Few diseases are the subject of greater confusion than those of the joints. Cases of chronic arthritis are so common, so distressing to the patient and so rebellious to treatment, that their study is one of the greatest interest and importance. Yet we find that in any work dealing with arthritis, the subject is most conflicting and uncertain. A whole series of diseases seem inextricably mixed up under the same name, or a variety of designations are applied to the same disease. Such names as "arthritis deformans," "rheumatoid arthritis," "chronic arthritis," "chronic rheumatism," "osteo-arthritis," "rheumatic gout," "infective and toxic arthritis," etc., are all indiscriminately applied to numerous affections of the joints, and to different stages of the same disease.

This confusion, as well as the number of theories which are prevalent in most works on this subject, indicate a very imperfect knowledge of this group of diseases, a condition which is almost natural considering the great technical difficulty attending the study of their pathology.

It is difficult to find any satisfactory terminology which will include all the various types of arthritis. "Arthritis deformans," for instance, is a common term applied to this group of diseases, yet if deformity be waited for before diagnosing the disease, the patient may become a hopeless cripple in whose case treatment may be of little avail. Similarly, the term rheumatoid arthritis" has become so entrenched in literature that it has come to represent a more or less definite clinical picture; yet as a precursor of chronic arthritis of any type, acute articular rheumatism is neither invariable nor even common.

To make any clinical or pathologic classification of arthritis is most unsatisfactory, as gradations occur between all types, and almost any variety may have a number of possible etiologic factors.

An etiologic classification is equally confusing as each causative agent may be associated with a great variety of pathologic types. Also the etiology of the many forms of arthritis has long been a subject of inconclusive discussion, and even at present the most speculative and unsubstantiated views are entertained. It is essential therefore before there can be any satisfactory classification or treatment of arthritis, that its etiology and pathology must be thoroughly understood.

At the outset of the study of chronic arthritis one must first be certain of the diagnosis of the disease. It is by no means uncommon to see cases considered and treated as arthritis which are not related to this condition at all. Cases of injury of the joints are frequently confused with arthritis, and in these cases, as in all studies of arthritis, roentgenoscopy is of the greatest diagnostic value. Not uncommonly the pains over the shoulder in various gallbladder, liver and diaphragmatic conditions simulate arthritis; so also the pains in the hips in prostatic and pelvic diseases, and in sciatica. Again, gout may cause great swelling of the joints, and its recognition and appropriate treatment is necessary before it can in any way be improved. Similarly, it is by no means uncommon to see cases treated as some other disease, such as tuberculosis of the joints, which are in reality the much less serious condition of what is generally known as rheumatoid arthritis.

In the investigation of the etiology of chronic arthritis one is faced with the great multiplicity of types which this disease may assume. In some cases there may simply be a chronic synovitis with or without effusion into the joints. In others the opposing bones become united by fibrous or bony ankylosis, while in other cases all kinds and grades of deformity may be produced. Are all these types related to different etiologic factors. or may any one infective process in different degrees of virulence and duration be responsible for the production of a variety of types of arthritis?

The most simple type of chronic joint-disease is that which is observed in old age. Here the joints simply become stiff, and often somewhat painful on movement. Often there is a moderate degree of musculature contracture which may limit still more the movements of the joints. These contractures are largely due to muscular wasting and occur particularly if the subject has been bedridden for a considerable time. They may, however, further the impression that there is an advanced chronic arthritis. In young, very emaciated subjects dying from some wasting disease such as phthisis, this stiffness of the joints and contractures resemble the condition seen in extreme old age, and may be very misleading.

DEGENERATIVE ARTHROPATHY

In a series of two hundred necropsies in elderly persons I found that in practically every case, when old age sets in, the cartilage of the joints participates in the general atrophy of the tissues. These changes occur independently of arteriosclerosis, or are associated with it only so far as arteriosclerosis assists in producing the general body atrophy. Degenerative changes in the joints are found with equal frequency in aged subjects, whether arteriosclerosis is marked or not. These atrophic changes in the joint-cartilage are found as commonly in women as in men. Indeed, the joints show degenerative changes in women at an earlier age than in men, as the atrophy of the internal organs is more marked and occurs earlier in women. Even though a man has hands gnarled by hard work the atrophic changes in his joint-cartilage may not be worse than are found in many women who have never seemed to have any joint-trouble. In the joints of all senile subjects there occurs a simple atrophy of the cartilage, chiefly in the situations normally most exposed to friction, and possibly also where nutrition is poorest. In the lower end of the femur there commonly is found a patch of cartilage degeneration on the anterior surface between the condyles and also in the center of the under surface of both condyles. In older subjects, however, the entire surface of the cartilage may become villous. These appearances are due to an atrophy of the cartilage. This process commences on the surface. The cartilage shrinks and tends to become fibrillated. In parts the surface of the joint may come to appear as if the underlying bone were covered only by a thin layer of fibrous tissue. This atrophic process generally takes place very irregularly, beginning at the surface and extending vertically along the lines of the cartilage cells. This irregular process accounts for the villous appearance of the cartilage so commonly observed. In the later stages, when the general atrophy of the body and the atrophy of the joint-cartilages are very marked, the cartilage may in parts completely disappear, uncovering the underlying bony structures. When the bone becomes exposed to the friction of the opposing joint-surface it tends to become thickened and eburnated. In these cases there is apt to be considerable pain on movement of the affected joint.

In the upper end of the tibia similar changes are apt to occur, although not so marked as in the lower end of the femur. The joint-surface often is observed villous in appearance, and in parts the underlying bone may have become extremely fibrillated and frayed out at their inner margins. In extremely old atrophied subjects the semilunar cartilages may become so fibrillated and atrophic that they can hardly be recognized. The articular surface of the patella is particularly subject to degenerative changes, and its entire surface may come to have a villous appearance, while the rest of the cartilages in the knee-joint are but slightly involved. The elbow-joints also usually show well-marked changes in old age. Patches of degeneration are common in the middle of the convexity of the lower end of the humerus, and the cartilage may be seen to be receding from the periphery of the articular surface. This recession is particularly evident on the head of the radius, where commonly only the center of the articulating cup may be covered by cartilage. The concavity of the olecranon in its middle part always shows a marked atrophy, and appears as if a band of fibrous tissue of varying width separated the articular surface into two equal parts. Fissures where the cartilage is atrophied in other situations in this joint-surface are also frequently observed, although the atrophy in the center of the concavity is always very marked before these become evident. In these atrophying conditions the cartilage becomes fibrillated and finally disappears. It may, however, become calcified or replaced by bony tissue. In all the joints somewhat similar changes occur. In the acetabulum, for example, the cartilage in the center of the concavity atrophies from the attachment of the ligamentum teres outward, till in many cases as much as one inch in diameter is covered by fibrous tissue only.

In these cases of senile atrophy there are no inflammatory changes associated with the process, as no evidences of inflammation in the synovial membrane or the marrow-spaces under the cartilage can be found. The condition follows on similar processes which cause general tissue atrophy in old age, possibly on defective nutrition. It is, therefore, not a real arthritis, but is perhaps better styled a degenerative arthropathy.

Similar changes are found in the joints of subjects who have died from chronic diseases associated with marked wasting, and consist essentially of an atrophy of the cartilage associated with no inflammatory changes. Such patients often complain of pains and stiffness in the joints, and a mistaken diagnosis of arthritis is not uncommonly made.

ETIOLOGY OF ARTHRITIS

True arthritis is essentially an inflammatory process, and its effects depend on the quality of the damaging agent, its duration and its method of extension to the joint. The same cause may thus give rise to vastly different forms of arthritis, and the mistake must not be made of necessarily classifying similar types in the same etiologic group.

Arthritis occurs in the course of numerous general infections, many of which seem to have a special selection for the joints. In typical acute rheumatism there is a rapid, although shifting and comparatively transient involvement of the joints. Infections with a great variety of organisms, such as gonococci, many strains of streptococci, staphylococci, occasionally pneumococci, typhoid bacilli, *Bacillus coli,* and others may present arthritis as their most prominent clinical feature. In many acute diseases such as diphtheria and the exanthems, arthritis may occur, yet, as also found in endocarditis occurring in these cases, some intercurrent infection, in many cases streptococcal, may be responsible for the associated joint changes.

It is also asserted that various defects of metabolism are associated with the dissemination of toxic substances which are capable of exciting inflammatory changes in the joints. This, however, is really only suggestive and has by no means been proved, as these toxins have not been determined. It is also more probable that the digestive disturbances which so frequently go along with arthritic cases are due to the same general infection which has damaged the joints, or that the abnormal intestinal condition admits of the dissemination of bacteria into the circulation, and in this way infects the joints. In this connection it is not uncommon to find that in many cases of dilatation of the colon there is an associated bacteriemia, particularly of the *Bacillus coli* and streptococci, these organisms being often also readily isolated from the urine. In the history of a case of chronic arthritis it is suprisingly frequent, almost universal, to find such conditions as chronic pharyngitis, tonsillitis, pyorrhea alveolaris, endometritis, nasal sinus infection, mastoiditis, chronic gonorrhea, chronic phthisis, or some other existing septic focus which may have important relationship to the etiology. Certain of these infective agents may act in some form of irritative toxins in the same manner as gout, in which uratic crystals are deposited in the cartilage, and may sometimes excite secondary inflammatory reactive changes in the synovial membrane and marrow-spaces subjacent to the joint cartilage, and so produce a true arthritis. In the bulk of cases, however, the inflammatory changes, which can invariably be observed, are due to a lodgment of bacteria in the joint structures. As a further clinical proof of the infective nature of arthritis deformans, it is by no means uncommon to find some swelling of the lymph-nodes and enlargement of the spleen. These are particularly evident in those cases of chronic arthritis affecting children, generally known as Still's disease.

Arteriosclerosis has been held by many to be a direct cause of arthritis, yet numerous cases are observed without any marked arteriosclerosis. The latter condition undoubtedly may be produced by the same factors which are also causing arthritis, but it has no direct bearing, as some assert, on the production of joint inflammation. Microscopic sections of joints in arthritis deformans cases do not, as a rule, show arteriosclerosis, and the condition does not seem to depend on any decreased blood-supply from the larger arteries of the bone-marrow.

Similarly, without any conclusive proofs either therapeutic or pathologic, it has been stated that arthritis deformans cases depend on a deprivation from the system of lime-salts.

PATHOLOGY

The milder grades of joint-infection, such as occur in rheumatic fever, cause an inflammation in the synovial membrane, and generally some effusion of serum into the joint and periarticular tissues. There is usually seen some slight congestion of the vessels in the marrow-spaces just underlying the joint-cartilage, giving to the joint-surface a somewhat pinkish color; but only rarely is the cartilage damaged in any way. As a rule, one might say invariably, in acute rheumatic fever due to the specific organism of that disease, this resolves completely, and chronic synovitis and persistent effusion do not result as in the more severe forms of arthritis. In other infections—*Streptococcus pyogenes,* gonococcus, etc. — the same course may be taken and result in complete recovery. Even purulent effusion may occur, and yet the joint may suffer no permanent damage.

In animals (I have used for this purpose rabbits and dogs), the joints may be injected with organisms of low-grade virulence, *B. coli* after prolonged cultivation, for instance, and slight or marked effusion may be produced. The synovial membrane is inflamed and the effusion from this is apt to be serous and soon disappears. In other cases, when organisms of greater virulence are used, the effusion may be purulent. Extensive purulent effusion may distend a joint for a considerable time, and yet the joint cartilage may remain undamaged.

When the infective agent is still more virulent, marked changes in addition are found in the cartilage. The vascular structures underlying the cartilage become engorged, giving a reddened appearance to the cartilage, and serum may be exuded from them through the cartilage toward the joint. The cartilage-cells along the lines of the exudation of the serum from the subjacent vessels become swollen and disintegrated, and their capsules distended. In other degenerated areas produced in this way leukocytes and granulation-tissue rapidly extend toward the surface of the cartilage, and should the irritant continue in unabated virulence, the cartilage at these points soon becomes destroyed and replaced by granulation-tissue. In the severer types of infection the entire joint-surface may be involved. In the milder varieties, however, the process tends to be more localized. A common appearance is to find after ten days or so that the fluid in the joint, previously purulent, is clear and the synovial membrane is congested and villous in appearance. This may be the only change. In other cases, however, the cartilage in several spots is apt to be pitted, where granulation tissue has extended upward from the subcartilaginous vascular structures.

Certain observers of arthritis in human cases have considered that simultaneously with these subcartilaginous changes destroying the cartilage, there occurred an extension of granulation-tissue from the inflamed synovial membrane at the periphery of the articular surface, and this pannus, spreading over the cartilage, destroyed it as it advanced. This, however, so far as I have observed, is in relatively small amount in experimental infections of joints in animals, and with no degree of certainty can be noticed in human cases.

In human cases of arthritis I have observed much the same pathologic changes to occur as can be produced experimentally in animals, the intensity and duration of the damaging agent being responsible for the many types which are encountered clinically.[1] Acute infections may, therefore, be found resulting in a synovitis with slight or large effusions into the joint cavity. This fluid may be serous, yet in other types of infection may be purulent. This may completely resolve and leave a normal joint, sometimes even if there has been extensive purulent effusion. In other cases chronic synovitis results, the joint synovium becoming thickened and villous with the frequent outpouring of fluid into the joint or a permanent effusion. Some of these hyperplastic villi may eventually become cartilaginous and some may break loose into the joint and form the loose bodies so commonly found in these cases. With even marked chronic synovial inflammatory changes the cartilage may still remain undamaged. In the more severe infections the cartilage may be, in whole or in part, destroyed, depending on the intensity and duration of the infection and the amount of inflammatory changes induced in the subcartilaginous marrow-spaces. The cartilage is destroyed in front of the inflammatory proliferation extending from a comparatively narrow layer of inflamed marrow-spaces immediately subjacent to the cartilage. The cartilage thus, in part or altogether, may become replaced by fibrous tissue, which also may unite with similar productions of fibrous tissue on the articular surface of the opposing bone and so produce adhesions, particularly if no excessive fluid separates the joint-surfaces, and movement be limited. It is in this way that the adhesive types of chronic arthritis are produced. These adhesions may naturally be localized to a few spots, or may be distributed uniformly over the entire articular surface. Secondary changes in this new tissue are also possible, although generally the process remains stationary at the fibrous adhesive stage. Bone and even cartilage formation may, however, occur, and eventually the joint may be obliterated by complete osseous union between the opposing bones.

The earlier stages of the less acute, progressive forms of arthritis often appear as small depressions on the surface of the cartilage. These degenerated areas are generally associated with an inflammatory focus in the subjacent marrow-spaces. The primary agent causing this may originally have settled in this position in the epiphysis, or have extended through from the joint. These subcartilaginous inflammations are, however, commonly found some little distance away from the cartilage, which suggests that the primary involvement of the joint is, in many cases, from the direction of the epiphysis. The degeneration of the cartilage over these areas is probably due to some local interference with nutrition, but it may be produced in the same way, as can be observed to take place in acute arthritis, by the extension upward of exudates which destroy the cartilage.

The endosteal cells lining the marrow-spaces included in this inflammatory process tend to produce metaplastic changes. Cartilage formation is frequently observed in these areas. There may also be a transformation into an osteoid tissue, which eventually may become dense bone.

The inflammatory tissue in the marrow-spaces may often be seen to extend upward through the degenerated cartilage, and may spread out for some distance on the surface. In some other cases there is found a comparatively large portion of atrophic fibrillated edematous cartilage, and only a comparatively small focus of inflammation in the underlying marrow-spaces, which probably has been the primary condition.

The processes which lead to deformity of the joint are produced in much the same way as is the adhesive type of arthritis. These further changes which may lead to deformity depend on several factors. The damaging agent is generally of less virulence and applied to the joint over a longer period than is the case in the conditions responsible for the adhesive types of arthritis. Frequently repeated infection of the subcartilaginous bone-marrow spaces may accomplish the same result. The numerous grades of deformity are determined in any case by the cessation of the causal condition affecting the joint or its continuance in varied severity and duration. It is the gradually progressive destruction of the cartilage induced by inflammatory conditions in subjacent marrow-spaces, and the consequent proliferation of new cartilaginous and bony tissues, which eventually are responsible for the extreme deformities which are so commonly observed in chronic arthritis. Another factor which must not be neglected is the tendency of all the joint-structures, the synovial membrane, the cartilage, both perichondrial and hyaline, and the endosteal tissues in inflammatory and proliferative states, to metaplasia. In all cases of arthritis the synovial membrane shows considerable reaction. At first it is simply congested; later its lymphoid elements become hyperplastic and it assumes a villous appearance. Fibrous changes may occur in these villi, and finally cartilage or even bone may be produced. The loose bodies found in so many arthritic joints are chiefly composed of cartilage or bone, and for the most part are detached inflammatory metaplastic synovial proliferations.

Cartilage is thus more or less interchangeable with fibrous tissue in the joints. It is not uncommon to notice when the joint cartilage is becoming atrophied that it becomes calcified or transformed into a fibrillated structure closely resembling fibrous tissue. Also perichondrial fibrous tissue commonly becomes changed into typical hyaline cartilage. The deeper layers of the cartilage may also proliferate, forming large nodules of hyaline cartilage or bone. The greatest metaplasia, however, is found in the subcartilaginous inflammatory process, where bone or cartilage as a rule tends to be formed.

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[1] Milne, L. S.: Chronic Arthritis, Jour. Path. and Bacteriol., 1911-1912, xvi, 195.

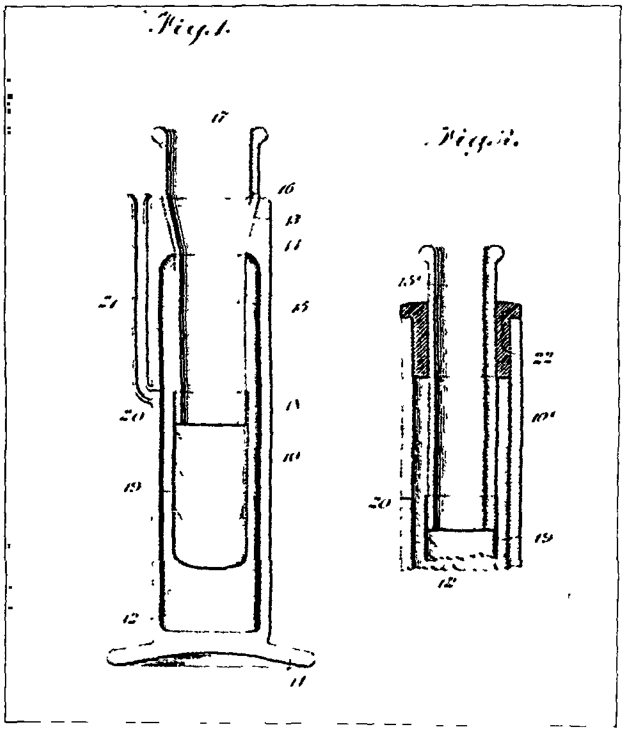
malignant test is obtained from a cancer of the uterus. *If such tissue is used, pregnant serums will at times* give an apparently malignant reaction because of the fact that pregnant serums will digest uterine as well as placental tissue (Lindig). It must be that the uterine cells in the tissue in such cases are digested instead of the cancer-cells.

Eleven known pregnant women reacted positively to the test.

Six of seven suspiciously pregnant women reacted positively. One of the six, as previously reported, denied the possibility, but admitted her true condition when informed that the blood-test showed what it was. An examination revealed a two and one-half to three months' pregnant uterus. The single negative reaction in this group is interesting in that the correctness of the negative finding was proved by operation. A woman presented herself at the hospital with a marked right-sided pelvic inflammation that required immediate surgical intervention. She also appeared on examination to be about four months pregnant. The pregnancy test was asked for, and run with a negative reaction. Operation revealed an extensive peritonitis (involving the right tube), which produced such a thickening of the pelvic parietal peritoneum that it was taken to be an enlarged uterus. The uterus, however, was non-gravid. There are two glaring errors in this set of cases. Two girls, possibly illegitimately five weeks pregnant, reacted positive, but later proved to be not pregnant. The blood was taken about 2 p. m. in each case and run that evening ready for the incubator. It is probable that amino-acids of digestion caused the error in each case. instead of faulty technic, as the placental tissue was carefully tested before use. Since these errors, which are Nos. 16 and 17 in my series, I have taken the blood, for diagnostic purposes, on an empty stomach in the early morning, with but a very few exceptions.

The positive findings in persons known not to be pregnant present an interesting subject for study. Lindig found that tumors of the genital tract caused the production of a ferment that was capable of digesting ovarian and uterine, as well as placental tissues. I have had three males with tumors of the genital tract that possessed a similar ferment, that is, a ferment that digested placental tissue. One of these cases, previously referred to, was a cancer of the testicle; and the other two were malignant papillomas of the bladder, one of which has been verified by microscopic section, the other by a clinical history, as already described. No male with a malignant growth elsewhere has produced a ferment that affected placental tissue in the least. The other cases, with positive reaction, though patients were not pregnant, were all in women with a questionable uterine history. Kabanow finds a similar selective action of ferments mobilized as the result of gastro-intestinal disturbances. Normal tissue is digested similarly to that diseased with a negative reaction to normal tissue from other portions of the digestive tract. The various sections of independent ferment production seem to be governed by the difference of functional activity. This selective action of certain ferments suggests the probability that the "protective ferments" of Abderhalden or the "antiferments" of Vaughan are produced by a group-cell activity of the tissue invaded. Whether it represents a dual action of the extracellular ferments or is produced independently by the cells for the one purpose, is open to discussion. In either case it suggests the possibility of being able to determine roughly the location of certain classes of tumor manifestations. These group reactions would seem to demonstrate that the blood-serum is in reality a means of conveyance rather than the place of production of the special ferments.

My work with the Abderhalden biologic test has impressed me with two sources of error when using the usual urinometer jar or large test-tube as an improvised dialyzing apparatus. One is the bacterial contamination of the thimble and its contents, when filling the thimble outside the dialyzing chamber. The second and more serious possible error is the danger of getting a drop or so of the blood-serum, or a speck or two of the protein material, on the outside wall of the dialyzing thimble. While the precaution of rinsing the thimble with distilled water before placing it in the improvised dialyzing chamber has always been taken, there necessarily remained an uncertainty as to the complete removal of the serum or tissue by such washings. In order to prevent these uncertainties, I have had made by Eimer and Amend of New York, and have used for some time past, the apparatus shown in Figures 1 and 2.



Figs. 1 and 2.—Two forms of apparatus for performing the Abderhalden serodiagnostic examination.

There is shown at 10 a container 1 inch in inside diameter adapted to be supported in upright position 5 inches high on a base (11) and of a preferably tubular cylindrical form. This container provides a chamber (12) into which the desired solution is to be placed. The upper end of the container is provided with a mouth which may be formed in the construction as shown in Figure 1, by an integral shoulder (14) ground on a preferably conical taper.

At 15 there is shown a combination stopper and funnel of substantially tubular form, having near its upper end an enlargement or shoulder (16) which is preferably ground on its outer surface to conform with the surface of the shoulder (14) against which it is adapted to be seated, making a substantially hermetic joint between the stopper and the container mouth. The upper end or mouth (17) of the funnel is normally open for the reception of protein and blood-serum to be used for the test, introduced into and through the funnel (15) to the attached thimble (19) at 18, which should have an outside diameter of 11/16 inches. The mouth (17) should be closed preferably by a cotton plug. Because of the definite connection between the funnel and container mouth, the thimble will be maintained at the proper level, and in a centered position with respect to the inner wall of the container and out of contact, therefore, with it.

The container is provided with a lateral opening (20) with the tubular extension (21) 1 inch below the shoulder for the dual purpose of equalizing the atmospheric pressure, and also of providing a means for introducing into the chamber (12) liquids at any time during the progress of the test without having to remove the funnel-stopper with attached thimble.

The form of apparatus shown in Figure 2 includes a container 10^1 of a simpler form than that above described. Instead, however, of providing ground connections immediately between the filling-funnel and the mouth of the container, a rubber gasket (22) serves the purpose of making a substantially air-tight seal for the chamber (12), and at the same time serves the purpose of maintaining the thimble (19) in spaced relation to the walls of the container and at a proper level in the solution contained therein. All the other features of the apparatus are identical with the description of Figure 1.

When the container has been filled with the required amount of distilled water and the parts assembled it is ready for sterilization with live steam, after which there is no part of the technic that requires or allows of the exposure of the outer surface of the dialyzing thimble, a feature readily recognized as a safeguard in performing the Abderhalden serodiagnostic examination. The necessary chloroform and toluol may readily be added to the sterile distilled water through tube 21 or hole 20 by means of sterile pipets. The top of 21 should be closed with a cotton plug in Figure 1. In Figure 2, hole 20 may be closed with a strip of adhesive plaster, which serves the added purpose of making a good place for necessary notations. Otherwise the technic of the test is the same as previously described by various writers.

REPAIR OF TENDONS BY FASCIAL TRANSPLANTATION

DEAN D. LEWIS, M.D., and CARL B. DAVIS, M.D.
CHICAGO

The free transplantation of tendons to repair defects in other tendons resulting from trauma or infection has become a well-recognized surgical procedure. The tendon of the palmaris longus has been used in most of the cases in which free transplantation has been attempted, for it can be removed without interfering with the function of the wrist or hand. When a number of tendons are to be repaired — for example, when the common extensor tendons of the fingers are to be repaired or when long defects exist in the tendons—enough material may not be supplied by the palmaris longus tendons and another source of supply for material for transplantation must be looked for.

Experimentally, it has been demonstrated that fascia behaves much like tendon when transplanted, and that long defects in tendons may be bridged by tubes of fascia; and that tendon, which cannot be differentiated from the tendon which has been destroyed, develops to repair the defect.

The repair of defects in tendons by means of fascial tubes has not been resorted to frequently in man, the direct transplantation of tendon having been attempted oftener. The following case is reported because an opportunity was offered later to examine the tendon which had formed within the fascial tube, and also to study the fate of the transplanted fascia.

History.—Dr. W. K., aged 32, was admitted to the Presbyterian Hospital, Jan. 26, 1913. Fourteen months before a patient had bitten the ring finger of his right hand. Soon a severe infection developed which necessitated removal of the terminal and a part of the middle phalanx of the ring finger thirteen days after the injury was received. Finally both the sublimis and profundus tendons were removed, the incisions continuing to discharge for two months after the first operation.

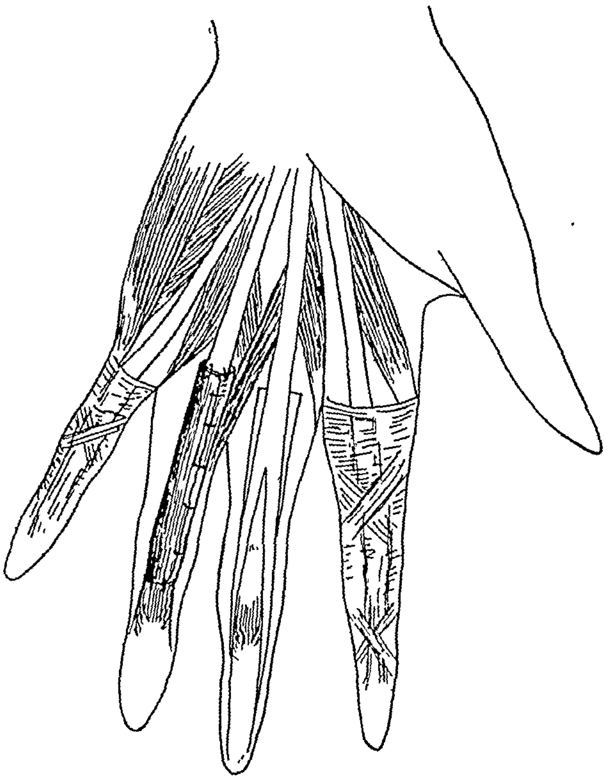


Fig. 1.—Diagrammatic sketch to show tube made from fascia lata which surrounds the proximal ends of the tendons and is attached distally to the periosteum. If the tendons are to be attached separately two fascial tubes are used.

Examination.—The terminal phalanx of the ring finger is absent. The end of the middle phalanx has also been removed, the bone lying close to the skin which seems, however, to be well nourished. On both the volar and dorsal surfaces of the finger are longitudinal scars which extend to the middle of the hand. The scar on the volar surface is somewhat hypertrophic. There is no flexion of the middle phalanx. The proximal phalanx can be flexed by the lumbricales and interossei. The skin on the volar surface is somewhat adherent at the site of the longitudinal scar, but it can be moved fairly well over the subjacent tissue on either side of it. In the middle of the palm of the hand, at about the transverse fold, there is some slight enlargement and resistance, which probably indicates the position of the retracted and attached ends of the flexor sublimis and profundus tendons.

Operation.—Jan. 27, 1913, an attempt was made to repair the tendons and prolong them to the end of the middle phalanx, part of which, as stated above, had been removed. An incision was made at the side of the finger and a volar flap was raised. Considerable scar tissue was found, but enough tissue could be carried up with the flap not to interfere with its integrity. The incision was carried through the interdigital fold into the palm, for the ends of the tendons were so adherent that considerable dissection was required to free the tendons in order that a fascial transplant might be inserted, so that when they contracted their action would be transmitted to the transplant and not expended on tissues adjacent to it. After the tendons were dissected free an incision was made into the thigh and the fascia lata was exposed. A strip of fascia measuring about 3½ inches in length and ½ inch in width was then removed, a thin layer of subcutaneous fat being left attached to the transplant. The fascial transplant was then placed back of the tendon, one end of the transplant was sewed around the tendons, and the other end was attached to the periosteum at the end of the middle phalanx. The surface covered with fat was placed so that it would form the inner lining of the fascial tube. This was done with the idea of furnishing to the tendon, which we hoped would develop, a layer of tissue which would permit of its sliding within the fascial tube. We hoped to reproduce much the same conditions that are found in the osteo-aponeurotic canals and synovial sheaths normally. After the fascial tube had been completed by a layer of fine chromic catgut sutures, which united the edges of the transplant anteriorly, the skin flap was sutured back into position with fine beeswaxed silk and a dry dressing was applied. No immobilizing dressing was used, for motion was desired and encouraged immediately after the operation.

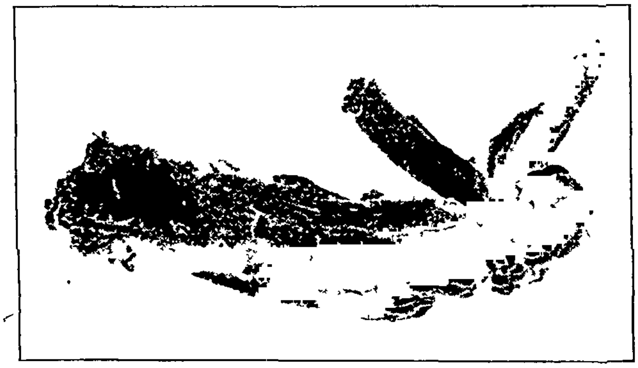


Fig. 2.—Tendon which formed following the operation. The finger was amputated 255 days after the fascial tube was inserted. The fascia remains intact, forming a sheath for the tendon which has developed from the proximal ends of the flexor sublimis and profundus tendon. The two tendons, separated by a thin connective-tissue septum, can be distinguished in the tube.

Result.—Active motion was so painful at first that not much was attempted until seven or eight days had passed. The patient reported occasionally after the operation. Within six weeks a definite rounded band, which rolled under the skin, could be felt. When flexion of the phalanx was attempted this band became more prominent, leaving the surface of the bone. When the band was held against the bone a greater degree of flexion could be obtained. Finally the middle phalanx could be flexed to about 80 degrees. As the patient was about to leave institutional work to enter private practice, he wished the finger removed for cosmetic reasons; the crippled finger, moreover, interfered somewhat with his work, notwithstanding that considerable improvement in function had followed the insertion of the fascial transplant. Oct. 9, 1913, the finger was removed under novocain anesthesia, the amputation being made through the head of the metacarpal bone. When the specimen was dissected a well-formed tendon was found. This differed from a normal tendon in the lack of luster only. In all other respects it resembled closely a normal tendon. When the tendon, which was about 3½ inches in length, was divided transversely, the original fascial tube could be seen. It contained tendinous tissue. Both the sublimis and profundus tendons had proliferated into the tube, for each tendon could be seen separated by a delicate fibrous septum. The newly formed tendon is represented in Figure 2.

Histologically the fascia is well preserved. The nuclei stain well and the bands of fibrous tissue are very similar to those found in normal fascia. Fascia when transplanted usually becomes somewhat edematous and infiltrated with leukocytes. These changes, however, occur early and after twenty-four days the transplanted can hardly be differentiated from normal fascia. The thin layer of subcutaneous fat transplanted with the fascia has disappeared and the newly formed tendon which has formed as the result of the proliferation of the tendons inserted into the fascial tube, is closely adherent to the transplanted fascia. The tissue filling the tube is tendinous in structure, well-developed bundles of fibrous tissue being separated by delicate connective-tissue septa. There is no histologic evidence that this tissue has developed from the fascial transplant. The transplant has apparently merely acted as a tube which has directed the growth of the proliferating tendons.

These findings are not in accord with those of Kornew,[1] which are based on experimental work on rabbits and dogs. He believes that, when a fascial tube is inserted between the cut ends of tendons, the fascia proliferates to form the tendon and very little of the new tendon is formed by proliferation from the ends of the divided one. The findings in the case which we have described would indicate that the fascial tube plays a passive rôle in the development of the new tendon. Experimental work has already demonstrated the value of fascial tubes in the repair and reconstruction of tendons. This method has not as yet been extensively employed and this case has been reported to show the functional and anatomic possibilities.

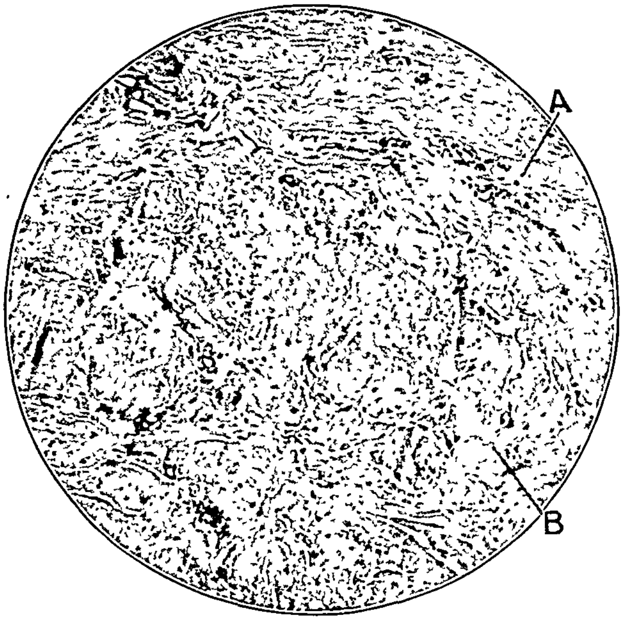


Fig. 3.—Cross-section of the tendon. The fascia, well preserved and appearing like normal fascia, forms a sheath for the tendon which has developed. There is no evidence that the fascial tube plays an active part in the formation of the new tendon. It forms merely a canal along which the tenoblasts of the divided tendons proliferate. A, section through transplanted fascia. B, section through new tendon.

As Rehn[2] has recently shown, some loss of motion occurs in transplanting flexor tendons into the fingers,

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1. Kornew, P.: Ueber die freie Fascien transplantation, Beitr. z. klin. Chir., 1913, lxxxv, 144.

2. Rehn, E.: Klinischer Beitrag zur freien Sehnenverpflanzung, Arch. f. klin. Chir., 1913, cii.

because the transverse aponeurotic bands are lost The loss of these bands permits the tendon to leave the bone when the muscle is contracted, resulting in some loss of motion. This was indicated in the case reported, for a greater degree of flexion of the phalanx could be obtained by holding the tendon against the bone In one of Rehn's cases a ring was worn to accomplish this purpose.

Fascial tube repair of tendons offers much in plastic operations on the extensor tendons of the fingers There may be some limitation of motion after repair of the flexor tendons because of destruction of the transverse bands Besides the flexor tendons are closely grouped in the palm and there is a finer mechanical adjustment than there is in the common extensors

THE DIAGNOSIS OF SPINAL CORD TUMORS

WITH REPORT OF TWO CASES

HYMAN CLIMENKO, M D
Adjunct Visiting Neurologist to the Montefiore Home, Associate Visiting Neurologist Neurological Hospital
AND
DAVID FELBERBAUM, M D
Pathologist to the Montefiore Home and Hospital
NEW YORK

Through the wonderful advance in modern surgery, the spinal cord as well as the brain has become readily accessible, hence an early and accurate diagnosis of spinal cord tumors is of the utmost importance The only hope for permanent relief lies in the earliest possible removal of a new growth, before irreparable injury to the cord has taken place

The two following cases, which occurred in the services of Dr I Abrahamson, to whom we wish to express our indebtedness for the courtesy of observing and reporting them, are of great interest from this point of view. The first illustrates how syphilis not of the central nervous system may mislead one, while the second is peculiar in its onset and course

CASE 1—Mrs H S, aged 55, born in Austria, entered Montefiore Home Nov 17, 1911, complaining of pains and loss of power in lower extremities, loss of control of bladder and rectum, girdle sensation and tingling in lower extremities and right hand

History—The family history was negative except that the patient's mother had a wasting disease of many years' standing The patient was always of a delicate constitution and had convulsions in early childhood Her menstrual history was negative She married at 21 and had nine healthy children, no miscarriages At 25 she had a cystitis following childbirth Ten years before admission she suffered from a chronic ulceration of the legs Fifteen months before admission her present illness began and was insidious but progressive in its course She first complained of tingling and pulling sensations which began in the soles of both feet and gradually ascended to the hips A little later more or less constant pains developed about the middle of the spine, shooting downward into both legs, and later, stiffness and weakness of both legs appeared The weakness was immediately preceded by a girdle sensation in the lower part of the abdomen Three months after the commencement of her illness she could no longer walk Two months previous to admission she lost control of bladder and rectum A few weeks before admission she noticed a tingling sensation of the little finger of right hand No diplopia, headaches, vomiting or convulsions were present at any time When admitted the patient could neither stand nor walk. She lay on her back and could sit up only with great difficulty. Both lower extremities were flexed and extremely spastic

Examination—Double Babinski, Oppenheim, Mendel and Bechterew were present with double ankle clonus Both knee jerks were lively The lower abdominal reflexes were absent The various reflexes of upper extremities were normal Pupils reacted consensually to light, accommodation and pain Gross motor power of the lower extremities was greatly diminished and the movements were carried out sluggishly and painfully Passive movements were difficult to carry out because of the enormous spasticity The spine showed no deformities, but there was a marked hypersensibility to pressure at the tenth, eleventh and twelfth dorsal spines There was a slight hyperextension of the interphalangeal joints of the fingers The cranial nerves were negative, save for a slight asymmetry of passive innervation of the face, the right being stronger, this difference, however, disappeared on active or emotional innervation The lower extremities were covered with pigmented copper colored scars varying in size from a millet seed to a large pea Over the middle of the outer aspect of the left leg there was a scar of an old ulceration The feet were cold and cyanotic Decubiti were over both buttocks A sensory test taken in January, 1912, showed a loss of all three sensations from the level of the mammae, down anteriorly and posteriorly The sensory disturbances found in May, 1912, are best seen by the accompanying chart (Fig 1) Vibration sense was absent in the lower extremities Stereognostic sense was present

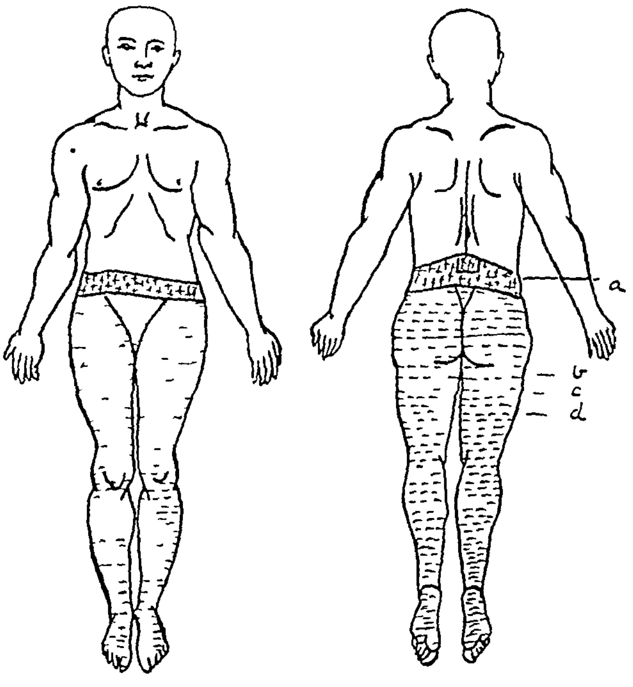

Fig 1—Chart of sensory disturbances areas found in Case 1 a, hyperalgesia, b, anesthesia, c, analgesia, d, thermanalgesia Rectangle in lower dorsal region shows location of extramedullary tumor

The heart was normal, pulse 78, blood pressure 150 mm systolic and 120 mm diastolic Blood serum, tested for the Wassermann reaction by Dr D M Kaplan and Dr D Felberbaum independently, gave a strong positive reaction The cerebrospinal fluid by Wassermann test at the same time, however, was negative The spinal fluid registered 30 cm by Nonne's apparatus, and was clear. Globulin reaction was positive Albumin in excess and 25 cells were present in 1 cm of fluid On these laboratory findings the patient was given two full doses of salvarsan intravenously, followed by many intramuscular injections of mercuric bichlorid The condition apparently improved a little, the level of the sensory disturbance became lower and there was some increase of motion

Diagnosis.—In analyzing this case, then, we have symptoms of compression myelitis, Wassermann plus reaction in the blood, and a slight improvement following a thorough course of antisyphilitic treatment. Therefore it is not at all surprising that a diagnosis of syphilis of the cord was adhered to for a long time. During May, 1912, however, after several very careful sensory examinations, a constant level was established. This, together with the symptoms previously described, especially taking into consideration the unbroken progress of the symptoms with their constancy, the decided tenderness over the spines of the tenth, eleventh and twelfth dorsal vertebrae and the narrow band of hyperesthesia above these vertebrae, conclusively proved that we were dealing with a constant lesion within the spinal canal, extramedullary, which was causing the compression, that is, a new growth and not a syphilitic process, in spite of the positive Wassermann and apparent improvement following treatment. An operation was therefore urged.

Operation.—June 14, 1912, Dr. Charles Elsberg removed an extramedullary tumor which was situated at the level of the ninth, tenth and eleventh dorsal vertebrae. The patient made a complete recovery from the immediate effects of the operation, but succumbed July 29, 1912, to the extensive decubiti and pneumonia.

Specimen.—The tumor was irregularly elliptical with a cauliflower-like surface, and measured ¾ by ½ by ¼ inches. It was situated between pia and dura being only moderately adherent. Histologically it proved to be a typical endothelium of psammoma type, probably arising from the pia. Permission was obtained to remove the spinal cord and at the level where the tumor had originally been located firm pia-dural adhesions were found (Fig. 2), and the cord was so completely compressed that it was divided into two parts, separated by a thin membrane, showing clearly the unfortunate result of prolonged compression and the impossibility of a restoration even after the removal of the cause.

Case 2.—Mrs. E. G., a widow, aged 52, born in Russia, entered Montefiore Home March 21, 1913.

History.—Her family history was negative. The patient had always worked hard. She had had one live child and one miscarriage; menstrual history negative. Her present illness began one year and three months before admission, was of a rather sudden onset with severe temporal and occipital headaches, which were more or less constant and increased on lying down. Time of day made no difference; she often would be awakened from sleep by severe headaches. Six months after onset of disease the right hand and arm began to grow weak and somewhat painful and swollen. Two months later the right leg began to grow gradually weak. This improved somewhat, however, while the right arm progressively grew worse. During the two months previous to admission the left hand and arm began to grow weak, and about the same time the patient began to complain of dyspnea, precordial pains, dizziness, and spots before the eyes. Finally the difficulty in breathing became so severe that she was unable to stand or walk. She soon completely lost the power of right arm and developed incontinence of the bladder and rectum.

Examination.—Patient half lying on her back, propped up with pillows. Dyspnea and cyanosis evident; respirations 40 per minute. Right Babinski present. Flexion of the left toe and extension of the others obtained by plantar stimulation on left side. Right ankle-clonus obtained; left ankle-joint reflex obtained with difficulty. Right knee-jerk and patellar jerks lively and stronger than left. Abdominal reflexes not elicited, possibly because of the position of the patient. Reflexes of upper extremities absent, including the scapula. Both corneal reflexes were present and pupils reacted normally to light and accommodation; they were moderately dilated. The patient could move both ankles, left better than right. Flexion and extension of knees were present, but left was better than right. All active movements of right hand were absent, in left they were clumsy and the patient could not execute any finer movements, could not move right shoulder, and there was no resistance whatsoever to all passive movements, the condition being that of complete flaccid paralysis. Direct myotatic irritability was absent, and the muscles were in a distinct hypotonic state. Atrophies with electrical changes of the intrinsic muscles of the right hand were distinct. A sluggish reaction to both currents was obtained in the left hand. The skin was cold and dry and peeling in some parts. Subcutaneous tissue apparently was in a myxedematous condition. Cranial nerves were negative with the exception of the right eighth, which showed a distinct diminution of both air and bone conduction. The sensory disturbances are shown in Figure 3. Blood-pressure was 165 mm. systolic and 140 diastolic. Heart and lungs were negative. Wassermann reactions in blood-serum and cerebrospinal fluid were also negative. Urine specific gravity, 1.025; albumin and casts were not found.

Diagnosis.—Various diagnoses were offered in the analysis of this case; chiefly among these were cardiorenal disease and arteriosclerosis of brain and spinal cord. One can readily see the reasons for such varied diagnoses, namely, the extreme dyspnea and cyanosis, palpable arterial changes with increased blood-pressure on the one hand, and the apparent hemiplegic type of paralysis with vague cerebral irritative symptoms such as are incidental to arterial changes on the other. Nevertheless, on close observation, the sensory findings, which were carefully charted and repeatedly found to be the same, together with the atrophies and trophic disturbances in the upper extremities, pointed toward an isolated segmental lesion in the cord. This was more emphasized by the absence of any objective cerebral symptoms, and the well-marked tenderness on pressure over the upper cervical vetebra and nape of neck, and an upper segment of hyperesthesia made it clear that here again we were dealing with a neoplasm of the cord. July 6, 1913 the patient died from symptoms of cardiac failure.

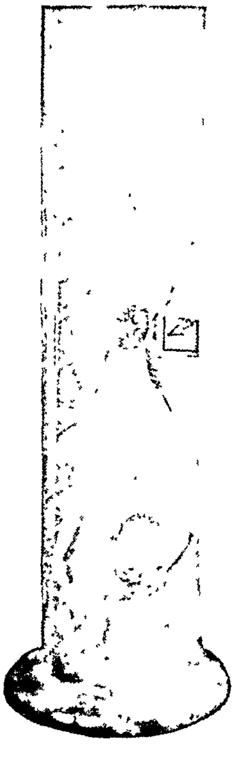

Fig. 2.—Extramedullary tumor removed in Case 1. Arrow points to growth.

Necropsy.—Dr. Felberbaum gave the following report in brief: Body that of a short, senile female. Fatty layer deficient. Pleural cavity free except for some adhesion over right apex. Pericardial fat increased, heart dilated. Mitral valves thickened, sclerotic and shrunken. Aortic valves thickened, and fatty atheromatous patches in aorta. Tricuspid valves normal, pulmonary valves thickened. Right ventricle and auricle much dilated and flabby. Heart muscles brownish; no hypertrophy of walls. Lungs congested. Subpleural hemorrhages on mediastinal surface of lungs with small ones on costal and diaphragmatic surfaces. Lung tissue dense, fibrotic and edematous. Liver, normal in size, with numerous patches the size of millet-seed immediately under the capsule. Liver substance very friable. Spleen very small; tissue dense but friable. Kidneys enlarged, cortex diminished and the capsule adherent in spots. Uterus small, endometrium thickened and polypoid. Gastro-intestinal tract negative. Brain normal in size, with well-marked convolutions; congestion present. Basilar vessels thickened and some plaque formation is seen.

When the brain was separated from the cord a brownish jelly-like substance was found replacing the region of the central canal of the lowermost portion of the medulla, and continuous with a similar condition of the upper part of cord. The cervical cord was enlarged throughout to about twice its thickness. This was caused by a new growth which occupied most of the posterior half of the cord, being especially extensive on the right, and replacing the commissures, the central canal, part of the anterior and posterior horns and columns. The growth is grayish, soft and well defined. It extends down to the seventh cervical segment, and is more centrally located at this point and much less in extent.

Histologic Examination and Diagnosis.—In the pons the structure greatly resembles exuberant granulation tissue with its distended and tortuous arterioles, edema and fibroblasts, with here and there some round-cell aggregations. This process is apparently located around the central canal, but no cells of a malignant nature could be found. The mass which corresponds to the new growth in the cord is composed microscopically of broken-down material. Along the posterior margin between the entrances of the posterior roots a narrow strip is found containing peculiar dark-staining cells, varying much in size and shape, showing mitosis and frequently assuming a column-like arrangement. Here and there giant multinuclear cells are seen. The pia in this situation is greatly thickened and the cells previously described are also found in the pia which is intimately connected with the cord. The blood-vessels are sclerotic, and many ganglion cells of the anterior horns show various stages of degeneration. In the lower part of the cervical cord where the pathologic condition is central, none of these peculiar cells can be found and the condition is merely an area of degeneration with edema and vacuolation, that is, beginning cavity formation. There only can the central canal be made out; it is dilated and tortuous. The diagnosis is gliosarcoma of cord with invasion of pia and in an advanced stage of breaking down.

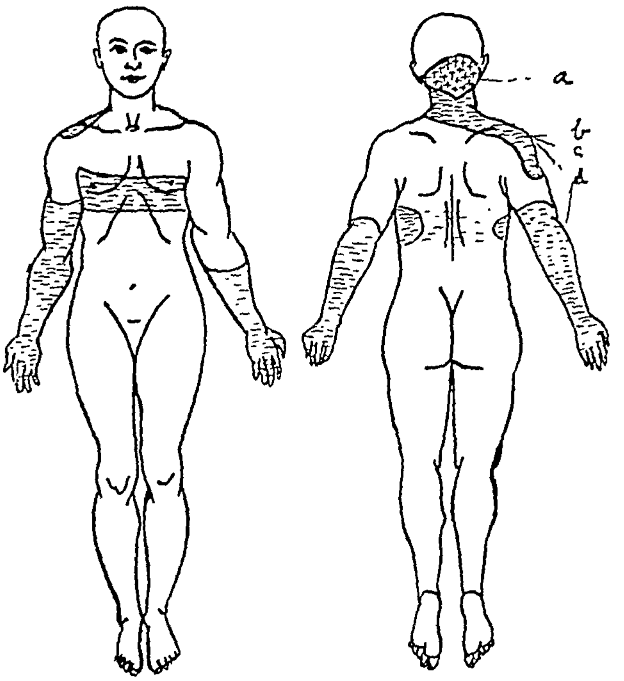

Fig. 3.—Chart of sensory disturbance areas found in Case 2. a, hyperalgesia; b, anesthesia; c, analgesia; d, thermanalgesia.

The diagnosis of extramedullary tumor of the spinal cord can be made early in the course of the disease, provided we obtain and interpret properly the subjective and objective symptoms. When these are correlated with our knowledge of the anatomy and physiology of the central nervous system we are able to locate the exact site of the growth, even in the incipient stage.

Tenderness over the vertebrae with various neuralgic symptoms that are persistent, usually unilateral and localized, preceded by paresthesia and followed by cramps and finally by atrophies, are, in order, the earlier symptoms of focal disease of the cord. If these can be ascribed to root irritation, from the presence of sensory disturbance, our suspicions should be at least aroused. Sherrington has demonstrated that a root does not supply a sharply defined area, but on the contrary the root areas overlap each other. Whereas in ordinary neuritis the sensory disturbances are confined closely to the course of the nerve, the disturbance caused by a root irritation is not sharply outlined, but will reach above and below the root area, gradually merging from the normal to the diseased. Furthermore, there is usually associated with the latter a band of hyperesthesia above the anesthetic zone.

Chief among other conditions that may give rise to similar symptoms is vertebral caries. The absence of tuberculosis elsewhere and a negative Roentgen-ray examination of the spine and lungs will permit of its exclusion.

Syphilis is always difficult to differentiate, particularly when the patient has a known syphilitic infection. Lues when affecting the cerebrospinal axis rarely confines itself to one locality, but is rather of a disseminated character. The symptoms are not constant but *vary considerably especially with treatment.* Syphilis can reasonably be excluded if the cerebrospinal fluid gives a negative Wassermann reaction, when a large quantity of the fluid is employed in the test (1 c.c.).

Reflex symptoms from a disease of a visceral organ may resemble the early symptoms of spinal-cord tumors, as aneurysm, neoplasm, etc. A careful analysis of the symptoms, combined with Head's zones and the absence of anesthesia, instead of root symptoms will exclude a cord lesion.

As the tumor grows it will compress the cord causing the appearance of tract symptoms. At first, if one-sided, these will commonly assume the type known as the Brown-Séquard syndrome, and if at this stage we can exclude syphilis, caries and multiple sclerosis localized in the cord, it is probable that a tumor is present. Here we wish to emphasize that when once a level lesion is established through a careful sensory study, though the exact pathologic diagnosis remains still in doubt, an exploratory laminectomy should be performed (caries being absolutely excluded). If the growth has been allowed to remain beyond this stage, paraplegia develops and a complete compression of the cord or a transverse myelitis results. Probably no one will then doubt the existence of a tumor, but irreparable damage has been done; spinal-cord tissue does not regenerate. Extramedullary tumors are frequently benign, and restitution may be expected provided the neoplasm is removed at the opportune time. Dr. Abrahamson has now under observation three such cases, two at the Neurological Hospital, Blackwell's Island, that were operated on by Dr. Charles Elsberg, and another at the Montefiore Home operated on by Dr. Kiliani over seven years ago at the German Hospital. The restitution in these cases has been almost complete.

Circumscribed serous meningitis also produces symptoms very similar to those of extramedullary tumors, and a differential diagnosis is frequently impossible. The root symptoms and the pains so characteristic of tumors, however, are not pronounced in some instances of circumscribed serous meningitis. An early laminectomy is required in either case, and therefore an exact pathologic differentiation is not of practical importance.

The diagnosis of intramedullary tumors is at times easy and at other times exceedingly difficult. In this condition we do not have the incipient symptoms occurring alone which are seen in the extramedullary type, but they are associated from the very beginning with cord symptoms, such as tract involvement.

A number of conditions may be mistaken for intramedullary growths, such as syphilis, gliosis, syringomyelia, progressive muscular atrophy, multiple sclerosis and tuberculosis of the cord. There is, however, one characteristic sign that differentiates a tumor from all these enumerated conditions, namely, root symptoms, which, from the onset, accompany the cord symptoms.

Syphilis has previously been discussed. Gliosis spinalis and intramedullary tumors cause very similar symptoms and an exact differentiation between the two is in many instances impossible. It is well to remember, however, that the incongruity of sensory and motor symptoms, is characteristic of gliosis and syringomyelia. In other words, the sensory disturbances are wide-spread and do not correspond to the amount of motor disturbances. Pathologically, gliosis, syringomyelia and gliosarcoma are very closely related and one may be transformed into the other.

Again, besides the characteristic and often wide-spread sensory symptoms peculiar to syringomyelia, there are trophic changes in the skin, muscles and bones early in the disease, while in tumors such symptoms are of late appearance. Progressive muscular atrophy has no sensory disturbances. In multiple sclerosis, sensory disturbances are rarely very pronounced. The symptoms are wide-spread, rarely focal. There is intention tremor, optic atrophy and characteristic speech. Tuberculosis of the cord, as shown by Oppenheim is usually confined to the gray matter of the cord. Tuberculosis of another organ is usually found present.

The outlook for a good result following an operation is not as bright as in the extramedullary variety. It was recently shown, however, especially by Dr. Elsberg that even in this condition the removal of the tumors can be successfully accomplished by a process of extrusion, and if of a benign and circumscribed character, fair restitution can be obtained.

CONCLUSIONS

1. Comparing the two cases presented, it is evident that considering the nature and the situation of the growth in Case 1, had it been early diagnosed and removed before paraplegia set in, the result of the operation would have been brilliant. In Case 2, the tumor being infiltrating and involving the pia, an operation most likely would not have been very effective. Bearing in mind, however, that even central neoplasms may be benign or at their early stage circumscribed and not infiltrating, a surgical technic as developed by Dr. Elsberg ought frequently to give us satisfactory results.
2. An early diagnosis is of paramount importance.
3. A careful study and charting of the sensory disturbance will always establish the level.
4. Wherever a persistent level is established and is associated with some other suggestive symptoms an exploratory operation should be performed at the earliest possible moment, even if the exact pathologic process be still undetermined.
5. With present surgical skill, less damage will be done by an exploration than by allowing the cord to be injured beyond repair.

561 West One Hundred and Sixty-Third Street.
252 East Broadway.

Prevention.—The death of a single child by violent means causes a shudder to pass through a million minds, but the slaughter of a million innocents by preventable disease is complacently called the act of Providence.

THE DORSAL POSITION DURING THE PUERPERIUM AS A CAUSE OF RETROVERSIO UTERI

W. C. GAYLER, M.D.
Instructor in Gynecology, St. Louis University School of Medicine
ST. LOUIS

During the year ending Aug. 1, 1913, there were 105 papers published on the subject of uterine displacements throughout the world.[1] Of all these papers, only one-half of one paper was devoted to the etiology of these conditions (other than obstetric injuries). These papers represent a tremendous amount of work. Practically every paper mentioned the injuries incident to delivery as causative factors, but other causes were ignored. The subject of posterior displacements without obstetric injuries to the genitalia was scarcely mentioned. The literature classifies the causes of the above-mentioned condition about as follows:

1. Congenital lack of ligamentary tone throughout the body.
2. Pelvic inflammatory trouble, followed by adhesions.
3. Extreme distention of bladder and rectum, pushing cervix forward and fundus backward.

A very few authors (gynecologists, not obstetricians) are now adding a fourth cause, "the dorsal position during the puerperium."

Both permanent and movable displacements receive their chief impetus in the days immediately following delivery. The involution of the uterus, ligaments, vagina, vulva and perineum is a physiologic act, and should therefore leave no defect or malposition behind it. The uterus after delivery is not only large and heavy, but is more freely movable than at any other time during the life of the woman. Bumm[2] says:

> The movability of the uterus and vagina during the puerperium is tremendous. It can happen that the fundus is pushed up to, and under the border of the ribs, when the bladder is greatly distended.

While delivering a woman who had previously had the round ligaments shortened by the Gilliam operation, it occurred to me that the dorsal position would be contraindicated during the puerperium. We can safely assume that this uterus was held in the anterior position by the round ligaments, and by them alone. She had had a complete retroversion previous to her operation, and the round ligaments *only* had been shortened. We can, therefore, dismiss the possibility of help from the broad or sacro-uterine ligaments. It seemed to me that these round ligaments *might* stand the strain of the dorsal position, but why make the experiment?

We now come to the question, Are we ever justified in putting the recently delivered woman in the dorsal position? The uterus is then larger and heavier than at any time during the life of the woman, excepting before delivery, when a posterior position is impossible. The ligaments have not undergone involution, and cannot support the uterus. The normal bladder irritability is usually lacking for several days, often causing unsuspected bladder distention. An overdistended bladder, more than anything else, will tend to push a uterus out of position. In short, it would seem that the dorsal position during the puerperium is the ideal condition for the production of retroversio uteri. We have:

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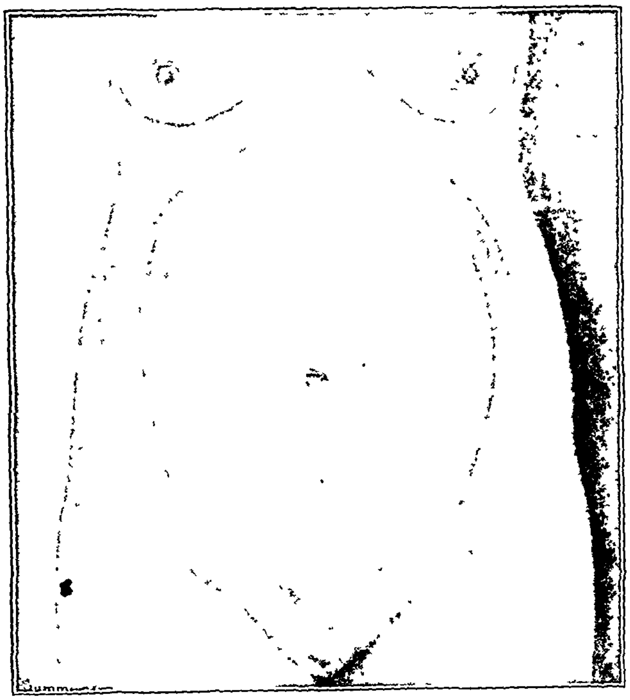
[1] Index Medicus

[2] "Die Beweglichkeit der Gebarmutter und Scheide in den ersten Wochenbettstagen, ist eine grosse. Es kann geschehen dass man den Fundus uteri, bei starker Blasenfüllung am, und selbst unte dem rechten Rippenrande findet."

1. Temporarily weakened ligaments.
2. Lack of any but ligamentary support.
3. Exceedingly heavy and freely movable uterus.

Of the last seventy-four patients entered in the gynecologic clinic of the St. Louis University, eleven had uterine malposition. Only four of these eleven were uncomplicated by perineal and other injuries. One of the four was a virgin with splanchnoptosis, thus leaving three women who had borne children, and who had retroversio uteri uncomplicated. These three patients all declared that the symptoms started shortly after delivery. All three spent the ten days following delivery flat on the back, without being permitted, even for a short time, to change position. Inasmuch as the midwives of St. Louis rarely permit their patients any but the dorsal position after delivery, there is nothing surprising about the way these women were treated. Surely these patients owe their troubles to stupid insistence on the dorsal position during the puerperium.



Is it reasonable to expect these round ligaments to hold this uterus in anteversion, after delivery, with the woman in the dorsal position?

Practically all the text-books on obstetrics used at present ignore the question of the position during the puerperium. Some of the books on gynecology mention the subject, but the dorsal position during the puerperium is not universally recognized as a cause of retroversio. Many authors, in private letters that I have had, admit the importance of the subject, and some are going to mention it in their next editions.

The illustration gives an idea of the tremendous changes that take place in the round ligaments during pregnancy. Is it reasonable to expect these round ligaments to hold this uterus in anteversion after delivery, with the woman in the dorsal position?

If we assert that a return to the four-footed manner of life would remove posterior uterine displacements, we state an interesting fact that cannot possibly be demonstrated. If we ask, however, that woman remain off her back during her puerperium, thus taking a lesson of the lower animals, we ask something that is possible of fulfilment. To spend most of her time on her right and left sides, occasionally to be flat on her abdomen, or to assume a position slightly on her side but almost on her abdomen, would seem a logical procedure for at least eight days. Bumm says that the uterus loses half its weight in the first eight days following delivery. The involution of the round ligaments is probably well advanced by that time.

I certainly think that the dorsal position should be prohibited during the puerperium, unless there seems to be an interference with the flow of the lochial discharge while the woman is in other positions.

Wall Building.

SEVERE CUTANEOUS ERUPTION FOLLOWING NEOSALVARSAN

REPORT OF TWO CASES *

B. A. THOMAS, M.D.
Professor of Genito-Urinary Surgery in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine

AND

S. W. MOORHEAD, M.D.
Instructor in Genito-Urinary Surgery in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine

PHILADELPHIA

The two cases herewith reported presented unusual and severe complications following the administration of neosalvarsan. In both cases the skin alone was affected, other portions of the body apparently escaping all deleterious effects of the drug. Each patient received three doses of neosalvarsan, at intervals of about a week. The first case was in the primary stage of the disease, the second in the tertiary; in neither were any skin lesions present prior to the injections. The cutaneous eruption appeared in both after the third injection (twelve days in one case and seven in the other). The first patient had had a small amount of mercury, and it was at first thought that this was responsible for the condition; the second patient received no mercurial medication in connection with the arsenical injections.

When about a week old the eruptions on the two patients were strikingly similar, both being symmetrical and diffuse, with moderate infiltration of the skin. In both cases the surface was slightly roughened. The subsequent courses, however, were rather different. In Case 1 the reaction was much more severe, and there was greater prostration, though the course of the disease was shorter; in its terminal stages the eruption developed into a well-marked dermatitis exfoliativa. The second case retained the characteristics of an eczema throughout its course.

In forming an opinion as to the etiology of the eruption, the possibility of an analogy to the Jarisch-Herxheimer reaction is to be considered, as in some cases the energetic administration of mercury and arsenic has resulted in a severe dermatitis of syphilitic causation. The fact that Case 1 has had a continuously negative Wassermann reaction for more than ten months and is clinically free from all signs of the disease would seem to militate against this view.

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* Read before the Philadelphia Genito-Urinary Society, Nov. 24, 1913.

Case 1.—Man, aged 22, Jewish, with a chancre of three weeks' duration (the *Spirochaeta pallida* found by dark-ground illumination), received a dose of 0.75 gm. neosalvarsan, Nov. 20, 1912. There was a trace of albumin in the urine prior to the injection. As the albuminuria did not become more marked and there was no subjective reaction, doses of 0.9 gm. were given on November 27 and December 2. In addition he was given mercury protiodid, 1 grain a day, beginning November 29. The gums quickly became tender, so that the mercury could not be increased; in fact it was taken very irregularly till December 24, when it was stopped altogether. Inunctions were given for two days.

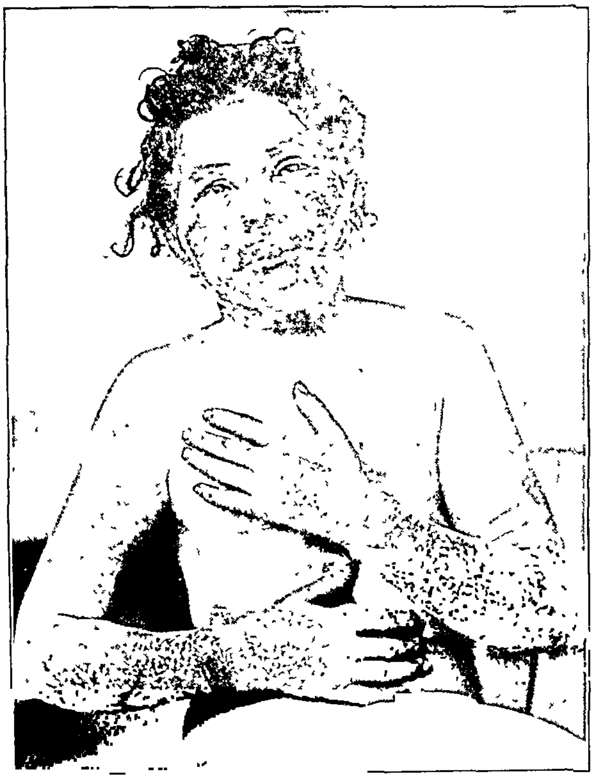


Fig. 1.—Height of the eruption in Case 2.

December 14 the patient noticed that his body was red. When he reported two days later his trunk and upper extremities were covered with a diffuse eruption of a dark copper-color. The surface was slightly roughened; itching was intense. The eruption gradually grew more severe and more extensive, and assumed the characteristics of a severe caloric dermatitis. The skin of the chest, abdomen, upper extremities, face and neck were the regions most affected at the beginning of the attack; the back was but slightly involved. Inflammation of the skin of the genitalia and lower extremities appeared later and was of great severity. The patient was confined to the house from December 24 till February 12, during the greater part of which time he was in bed. His face became so swollen that one eye was nearly closed. There was much secretion of a serous character, which exuded from all portions of the body, necessitating changes of the bedclothing several times a day. Moderate elevation of temperature was present during the greater part of the time; 101.8 F. was the highest recorded. Prostration was extreme, and there was a marked muscular tremor. Strange to say, the character of the urine steadily improved, and when the disease was at its height no albumin was present; casts were never found. Finally a well-marked dermatitis exfoliativa developed, the greater part of the body being scarlet, with patches here and there of desquamating epithelium. At this time there was also a marked edema, especially of the upper extremities. Recovery was accompanied by universal desquamation, loss (temporary) of the greater part of the hair, and ridging of the nails.

At present the patient is apparently in perfect health. He has gained weight and shows no evidence of the dermatitis or his spirochetal infection. The Wassermann has been continuously negative, the last test having been made on Oct. 20, 1913.

Case 2.—Annie B., aged 35, Jewish, referred by Dr. Henry Golden, was admitted to the Polyclinic Hospital June 11, 1913, complaining of excruciating migraine. She had had four miscarriages, the last thirteen years ago, and some of her four children showed stigmata of congenital lues. She gave no history of primary or secondary lesions; her husband had a chancre twenty years ago. She had been having severe headaches for the last eighteen months at intervals of three or four weeks. At times the pain was almost intolerable and prompted thoughts of suicide. The duration of the attacks was about two weeks. The results of two Wassermann reactions had been strongly positive. The urine contained a few hyaline casts on admission.

The patient was given intravenous injections of 0.9 gm. neosalvarsan on June 11, June 19 and July 3. The first injection was followed by a transient trace of albumin in the urine, and a temperature of 99 F. After the second injection she complained of vertigo, nervousness and epigastric distress. Temperature rose to 102, and pulse to 120, both becoming normal in twenty-four hours. She also had a macular rash on her arms and chest, lasting forty-eight hours. Neurologic examination showed no lesions of the nervous system other than the chief complaint.

She was readmitted to the hospital on July 22, complaining of burning and itching of the skin. She stated that one week after the third injection of neosalvarsan her face began to swell and an eruption appeared. One week later the extensor surfaces of the forearms exhibited an eruption beginning as an erythema, changing to diffuse millimeter-sized papules, and finally passing into a pustular stage. On the day of readmission the patient's skin was red and hot, and the entire body surface was covered with a diffuse maculopapular eruption, excepting that on the extensor surfaces of

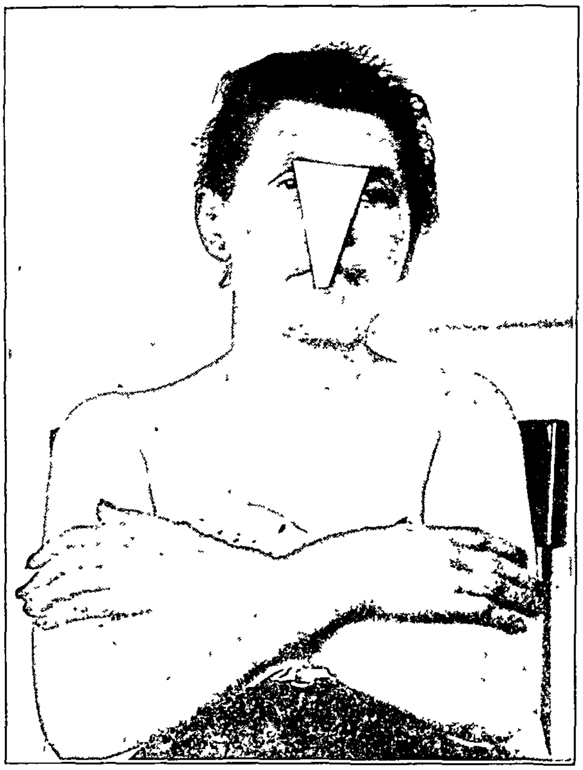


Fig. 2.—Patient after recovery.

the forearms pustules were superadded. The loose tissue of the face, neck, ears, lips, hands and legs was very edematous, imparting the sensation of an infiltration. No moisture of the skin was present. Burning and itching were intense. Temperature, pulse and respiration were essentially normal at the beginning of the attack and for a week following its advent. A second neurologic examination was negative save for a slight peripheral neuritis. Urine contained a trace of albumin, but no casts. Blood was normal; blood-pressure, systolic 128, diastolic, 78.

The condition became rapidly worse, being most marked on the face, forearms, scalp, arms, chest, legs, back and abdomen, in the order named, and had the appearance of an acute erythematous papulosquamous eczema. There was much oozing of serum and subsequent crusting of the surfaces most involved. Figure 1 represents the condition at the height of the attack. At no time was the patient greatly prostrated, but spent most of her time sitting up in bed. The temperature was markedly intermittent, and ranged from 96 to 102 F. (Fig. 3). The urine showed no abnormalities other than those *already noted.*

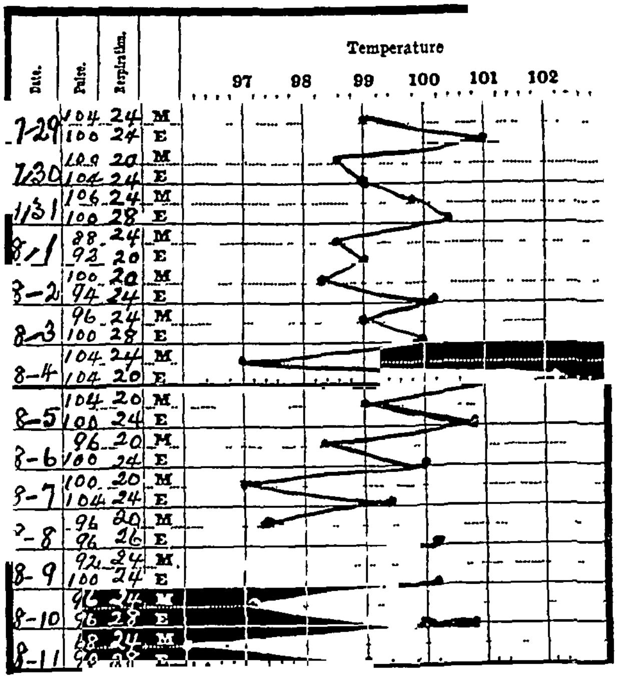


Fig. 3.—Temperature chart in Case 2.

The skin was entirely normal with the exception of a patch of eczema rubrum on one leg on November 22, when the second picture was taken (Fig. 2). There was marked thickening of the nails, however. The patient has had no headaches since receiving the neosalvarsan. The Wassermann reaction is still strongly positive.

116 South Nineteenth Street.—1523 Pine Street.

Some Hygienic Fallacies.—The new hygiene has given us an entirely different conception of many of the factors that enter into health and disease. It has exploded many a world-old fallacy. We know, for example, that there is practically no more danger from sewer-gas than the farmer subjects himself to on his manure-pile. The old bugaboo of sewer-gas dies hard. People have always clung, and still naturally cling, to the notion that anything that smells bad must be detrimental to health. Science has demonstrated that our sense of smell is a poor sanitary guide. It is certainly absurd to accuse the odors from plumbing of being the source of diphtheria, typhoid fever, scarlet fever, sore throat, or any other infection.—M. J. Rosenau in *Vermont Med. Month.*

FLUOROSCOPIC BRONCHOSCOPY

E. FLETCHER INGALS, M.D.
AND
STANTON A. FRIEDBERG, M.D.
CHICAGO

REPORT OF CASE BY DR. INGALS

About three years ago Mr. X., aged 42, drew into the air-passages a band of gold that had been fitted around the last molar tooth as a part of a crown. This measured 0.5 mm. in thickness, from 4 to 7 mm. in height at different places, and from 1 to 1.2 cm. in diameter. It was elongated to 1.4 cm. by pulling through the stricture mentioned below. At the time of the accident this was supposed to have passed down the esophagus. It lodged in the first branch of the right bronchus going to the upper lobe of the right lung. The patient had been suffering from a severe bronchitis for several years. After the accident he had four bronchiectatic abscesses in the upper lobe of the right lung, the last about four weeks before coming to me. The true nature of the trouble was not discovered until he came under the observation of Drs. E. L. Timmons and G. B. Webb of Colorado Springs, who made the diagnosis and sent him to me.

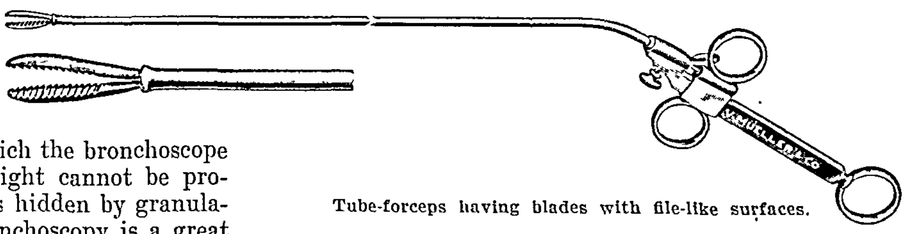
At the Presbyterian Hospital, Nov. 28, 1913, assisted by Dr. Stanton A. Friedberg, I did bronchoscopy under local anesthesia. We found a large cicatrix where we should have found the opening of the bronchus, which had been so constricted that it was impossible to penetrate the stricture with the bronchoscope, or with any rays of light; indeed, we were unable to locate surely the fistula through which the mucopus slowly escaped; but we could see a small depression that appeared to be its mouth. Careful probing did not enable us to find the opening or locate the foreign body, and after a long search we found the task hopeless. I placed the patient in a croup tent for three or four days, until the reaction caused by the operation had subsided. December 3, under local anesthesia, I repeated the bronchoscopy aided by the fluoroscope. Drs. S. A. Friedberg and J. E. Rhodes assisted me and Messrs. Earl Ball and G. W. Wallerich, for Dr. Potter, managed the Roentgen apparatus. Having passed the bronchoscope down to the scar tissue, with the aid of the fluoroscope, I directed it accurately toward the foreign body, which was found to be about 3 cm. beyond the end of the tube. A strong tube-forceps was then introduced. By firm pressure the bronchoscope was carried to within about 1.5 cm. of the shadow of the foreign body, and the forceps was then carefully pushed through the stricture, which appeared to be about 3 mm. in diameter. When the shadow indicated that the forceps had reached the foreign body, the instrument was moved laterally back and forth to assure me that it was in the same opening with the foreign body, and when I had satisfied myself on this point, I opened the blades and pushed the forceps onward about a centimeter and closed them on the gold band, which was grasped with one blade inside. Traction at once brought the shadow of the gold band into apposition with that of the end of the tube, and quickly convinced me that I had a firm grip on the foreign body. Continued traction for two or three minutes with what I estimate about 6 pounds of force gradually drew the band through the stricture until it suddenly snapped out at the proximal end, and I thought the forceps had slipped off; but renewed traction showed me that the foreign body was against the end of the tube and I then drew out the two together. The band had been considerably flattened and elongated by being pulled through the narrow stricture.

The patient had suffered practically no pain during the operation notwithstanding the strong traction that had been necessary. He was again placed in a croup tent for forty-eight hours, but there was little or no reaction, and on the fifth day after the operation he was ready to leave the hospital. A week after the operation he had gained 10 pounds.

The forceps used in this case (shown in the accompanying illustration), was a simple tube-forceps, which was attached to a Krause handle; and it is far and away the best instrument for removing metallic or hard bodies that I have ever seen. It is strong and of small diameter, so that it will pass through any tube that can be used in bronchoscopy. Its chief characteristic is in the grasping surface of the blades and the strength of the spring by which the blades are opened as they are protruded through the tube. The surface of these blades is cut like a file with the cutting edge toward the handle, so that the harder the pull the firmer they grasp the body.

I had this forceps made for a similar fluoroscopic bronchoscopy. In that case a child had a shingle-nail in one of the tertiary divisions of the left trunk-bronchus with the head upward. The nail was in such a small tube and its head so hidden by granulation tissue that it was impossible to see it. Aided by the fluoroscope, I was enabled to grasp the head of the nail, but the various forceps employed repeatedly slipped off and I was obliged to desist. I then had this forceps made and secured the nail at the next operation. This forceps has not slipped in any case in which I have used it.

In the case of the child, I learned an important thing for fluoroscopic bronchoscopy. When the forceps has been passed down so that its shadow reaches the shadow of the foreign body, the end of the instrument should be moved back and forth laterally to determine whether or not it is in the same bronchus or cavity as the foreign body. If it is in a different tube the shadow of the forceps will pass away from that of the foreign body, but if in the same bronchus, the shadow of the foreign body will move with that of the instrument.


Tube-forceps having blades with file-like surfaces.

When a metallic body has passed into a fine bronchus, into which the bronchoscope cannot enter; or into which the light cannot be projected; or when the foreign body is hidden by granulation or scar tissue, fluoroscopic bronchoscopy is a great aid in its removal.

In using this method it is most important for the operator to assure himself that his forceps is in the same tube or cavity as the foreign body and that he is not grasping lung-tissue. A strong, slender, never-slip forceps is essential to success.

Just a week after this operation I assisted Dr. Friedberg in a similar operation, the history of which he adds to this report.

REPORT OF CASE BY DR. FRIEDBERG

A boy, aged 9, stated that two years ago last summer (August, 1911), he was lying under a tree with a brass bolt in his mouth which he aspirated. A violent coughing-spell immediately ensued. He told no one of the mishap until last June. One week after the accident he became ill with what his physicians called congestion of the lungs. This spell lasted for three weeks. He recovered from this attack but was not well or strong. He had a hacking cough until last winter when the cough became loose and he raised a great deal of a foul-smelling material. From time to time the patient had headache and high temperature. He failed to develop as a boy of his age would normally. In June, 1913, he was taken to Port Huron, Mich., to consult Dr. B. E. Brush. A diagnosis of abscess of the lung was made and posterior drainage was established. A roentgenogram which was taken before the operation showed the bolt in the lower part of the left lung and search was made for it at the time of the operation. Following the operation for drainage, the boy gained 15 pounds in weight. The wound closed at the end of about six weeks. During the fall the symptoms returned. He coughed a great deal and raised large amounts of pus. He was referred to Dr. Arthur Dean Bevan at the Presbyterian Hospital, who kindly asked me to assume charge of him. His temperature on admission was 100.4 F., pulse 120, respiration 28.

Examination showed a frail, undernourished boy. The respiratory movements of the left side of the chest were markedly diminished. There was a large scar with retraction over the lower part of the left chest from the former operation. Dulness was present all over the left side on percussion, being less marked over the upper lobe. The respiratory sounds were feeble over the upper lobe, with some moist râles present. Over the lower lobe the signs were those of a cavity with loud bubbling râles. No tubercle bacilli were found.

Bronchoscopy was done under local anesthesia. A continuous flow of very foul pus appeared as soon as the tube was introduced. It was impossible to see anything or do anything on account of this condition. After suction and swabbing had been carried on for almost half an hour the failure of the lighting apparatus compelled me to stop. Two days afterward the second trial was made by fluoroscopic bronchoscopy. The larynx was cocainized and a tube introduced. There was still a large amount of pus present, but there was less difficulty in clearing the bronchus. The tube was carried downward to the bronchus from which the pus appeared to come when the lighting apparatus, which had just come from the repair-shop, failed again. The fluoroscopic screen was then used. The forceps described by Dr. Ingals was introduced through the tube and I could feel it slip through a narrow opening into a cavity. With the screen, which was managed by Dr. Ingals, the movement of the tube and forceps was controlled, and I am greatly indebted to him for his aid. As shown by the shadow, the bolt was at first grasped about the middle, but as it would have been impossible to extract it in this position it was loosed and finally a hold was secured at its head, when it was brought out with the tube. Much pus and some blood immediately followed. The boy, however, was in good condition and complained only of some pain and soreness in the neck following the operation.

The diameter of the head of the bolt was 8 mm., and the entire length was a little over 17 mm. The temperature went to normal the next day, December 11. On December 12 it went as high as 100.4 F. December 13 and 14 it reached 102 F. On December 15 it rose to 104.2 F. No evidence of pneumonia could be found. The boy was still coughing and raising a large amount of pus, so the expedient was adopted of raising the foot of the bed and keeping the head low for a certain number of hours at intervals each day. This seemed to assist the drainage. On December 16 the temperature dropped below 100 F., at which point it remained for the next four days when, on the insistence of the father, he was allowed to return home. The respirations were from 18 to 20, the pulse 88 on his discharge.

Inasmuch as the changes produced in the lung as a result of the long-continued presence of the bolt were so extensive, it is somewhat doubtful what the ultimate outcome will be. Naturally, the conditions for recovery are better now than before the operation. If progress is not satisfactory, I believe that it will be both advisable and necessary to reestablish the posterior drainage.

104 South Michigan Avenue.

TRAUMATIC EPILEPSY

REPORT OF A CASE OF FIVE YEARS' DURATION CURED BY SURGICAL TREATMENT

WILLIAM M. LESZYNSKY, M.D.
Neurologist to the Lebanon and Harlem Hospitals
NEW YORK

Many years of experience and observation have shown that surgical operation on the skull or brain for the cure of epilepsy has well-defined limitations. The indications for operation are: (1) epilepsy following cranial traumatism; (2) jacksonian epilepsy, and (3) grand mal attacks in which there are distinct clinical evidence of a focal lesion.

The earlier the operation is performed after the cranial traumatism the more favorable the prognosis. As a rule, when the epilepsy has continued for a number of years, the epileptic habit, as it were, has become established, and hence operation, such as the removal of depressed bone, separation of adhesions, or excision of a portion of a cortical center ofter proves futile.

In the case herewith reported the cranial injury occurred during childhood. The epilepsy developed fifteen years later, and continued for five years.

Charles L., a bookkeeper, aged 26, first consulted me May 18, 1910. At the age of 6 he fell from a height and received a compound fracture of the skull over the vault on the right side. He was removed to a hospital and prompt surgical treatment instituted. Several weeks later he was discharged without any apparent residual symptoms of the injury. He soon returned to school and in the course of years his physical and mental condition developed normally. He remained in perfect health until the age of 21 (fifteen years after the injury), when he had an attack of clonic spasm affecting the muscles of the left hand and forearm, which was almost immediately followed by loss of consciousness and a general epileptic convulsion in which he bit his tongue. These attacks have recurred about once a month during the past five years, and have not varied in character or intensity, often taking place during sleep. Two days before he visited me he had four severe attacks during one night. He has never suffered from headache, save immediately after the epileptic paroxysm. There is no history of venereal disease, alcoholism or masturbation. He does not use tobacco. The gastro-intestinal tract functionates normally, the general health is good, and the patient follows his occupation regularly unless temporarily incapacitated by an attack.

Examination shows a well-developed young man in good physical and mental condition. Over the right temporoparietal region there is an irregularly shaped deep depression, (the bone having been surgically removed at the time of the cranial injury), 1½ inches in diameter about 3½ inches above the mastoid process, and 2 inches from the median line. The pupils and eye-grounds are normal. Further physical examination reveals nothing otherwise abnormal.

It being quite evident that the epileptic attacks were due to focal irritation from a cortical lesion resulting from the original traumatism, an *early operation was advised.*

The patient entered the Lebanon Hospital five days later and the operation was performed May 23, 1910, by Dr. Henry Roth, one of the attending surgeons, to whom I am indebted for the following notes:

"There was a scar from a curved incision over the right temporoparietal region. Within this there was another crucial scar, which was hard, depressed, adherent and pulsating. The central area showed absence of bone, and was about 1½ inches in diameter. A semicircular incision was made surrounding the outer curved scar in the right temporoparietal region. The pericranium was raised from the skull by dissecting inward toward the scar. The edge of the bone defect was removed, exposing the normal dura. The dura was then incised and carefully dissected off the brain-tissue, to which it was firmly adherent at the cicatricial area. The raised flap consisted of scalp and dura directly over the precentral convolution including all of the scars. After all bleeding was checked, the exposed brain-tissue was covered with Cargile membrane. The flap was replaced and sutured with silk, a small rubber-tissue drain being left in the lower angle of the wound. The drain was removed on the third day, and the sutures on the seventh day following the operation. He was discharged from the hospital June 11, 1910."

The patient was under my observation and reported to me regularly during the following year. He has never had any form of epileptic attack since the date of operation, a period of three years and seven months having elapsed. His general health has been good and he has attended daily his occupation as a bookkeeper. The treatment subsequent to the operation has been simply hygienic. He has never received any form of bromid or other sedative drugs.

145 West Seventy-Seventh Street.

ANASTOMOSIS OF THE FACIAL AND HYPOGLOSSAL NERVES FOR FACIAL PARALYSIS *

Cullen F. Welty, M.D., San Francisco
Surgeon Chief of Otology, San Francisco Polyclinic; Otologic, Rhinologic and Laryngologic Surgeon, St. Mary's Hospital, and City and County Hospital; Consulting Otologic, Rhinologic and Laryngologic Surgeon, German Hospital

Patient.—J. T., a man, aged 23, was shot in the right ear in September, 1909. Patient was in a local hospital for one month after he was hurt because of intense vertigo, nausea and vomiting. Facial paralysis was observed on the day following the accident.

Examination (September, 1910).—Face: complete paralysis. On the injured side the eye cannot be closed; cheek muscles are flabby, all lines obliterated, and forehead smooth (Fig. 1); mouth is drawn to the opposite side. The condition is accentuated when patient smiles (Fig. 2). No response to either faradic or galvanic current. No nystagmus or vertigo. Ear: Foul discharge, the meatus considerably contracted from the gunshot wound. The scar is about a quarter of an inch within the meatus, posterior and above. Because of the contracted meatus and the destruction, the parts cannot be recognized. From the location of the scar it is reasonable to believe that the facial nerve was not cut, but pressed on by a fracture. By tuning-fork: Weber to the good ear; Rinne

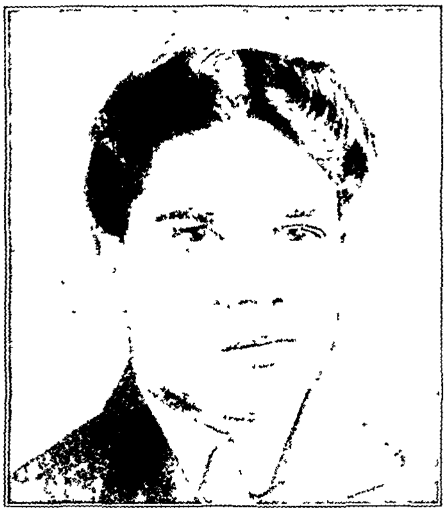


Fig. 1.—Facial paralysis from gunshot wound in right ear. Face in repose. Note obliteration of lines on affected side.

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* Read before the Surgical Section of the San Francisco County Medical Society, Oct. 21, 1913.

negative, heard in the good ear; injured ear completely deaf as proved by Neumann's noise apparatus; caloric reaction negative. By Roentgen ray: Bullet located in the petrous portion of the temporal bone.

With a bullet located within the petrous portion of the temporal bone, no hearing on the injured side, caloric reaction negative, the proof is almost positive that the facial nerve is so destroyed that it can never regain function.

Operations.—The ordinary radical mastoid operation was performed to remove the bullet and the chronic suppurative process; the entire posterior wall was found to be destroyed by the gunshot; tegmen tympani and antri intact; no other fracture apparent macroscopically; bullet imbedded to its depth in the region of the promontory of the petrous portion of the temporal bone. No trace of the facial nerve was found at operation, which was completed by the Neumann plastic; wound closed posteriorly; cavity entirely dermatized in six weeks. One month after complete epidermization the anastomosis with the spinal accessory was attempted. The spinal accessory was anomalous in this patient and the hypoglossal nerve was substituted. The facial nerve was severed at its exit from the stylomastoid foramen, the hypoglossal nerve was severed low down and an end-to-end anastomosis was made. Very fine thread was passed through the sheath of the severed ends of the nerves; the suture was repeated on the opposite side. An additional suture of catgut was inserted through the center of the nerves in their longitudinal axis. The sutured nerves were surrounded by Cargile membrane, which did not remain in position and was removed. The nerves were replaced under the stylohyoid muscle, which had been severed for better access to the nerve. The muscle was sutured and the wound closed in the usual way. Healing took place in a very short time.

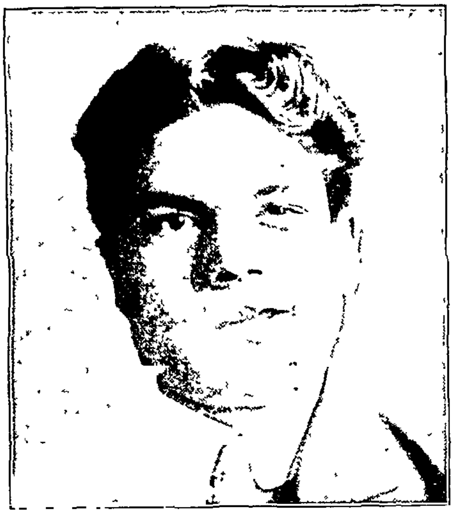

Fig. 2.—Patient shown in Figure 1, smiling. Condition best seen by alternately covering half of face.

Postoperative History.—About one month after the anastomosis, galvanic electricity was applied on alternate days for a period of two months. Faradic electricity was used on alternate days for a further period of two months. At no time did I notice any contraction of the muscles of the side of the face operated on. For the following four months, galvanic and faradic electricity were used alternately. During the latter part of the treatment I thought I noticed some fibrillar contractions about the mouth from the faradic current. This was nine months from the time the anastomosis was made. Regular office treatment was discontinued; patient was directed to purchase a battery, use it on alternate days and report to me once a month.

I did not see the patient again for about two years. A few months ago, he returned to me with the following history: At the end of one year following the anastomosis operation, he began to notice that he could move his face and during the next year he had electricity applied every other day. Since then the galvanic current has been applied at longer intervals.

At present, three years after the anastomosis, the injured side of the face moves when the patient talks; the muscles have recovered their tonicity. He can close his eye, wrinkle his face, lift the eyebrow. A smooth spot remains on the forehead on the injured side. The cerebral center of the anastomosed hypoglossal nerve has anatomically changed and now controls the muscles of his face.

Dr. Walter F. Schaller furnished me the accompanying tests under date of Nov. 21, 1913.

ELECTRICAL TEST IN CASE OF FACIAL PARALYSIS THREE YEARS AFTER ANASTOMOSIS OF HYPOGLOSSAL AND FACIAL NERVES*

Nerve or Muscle	Far	Right Galvanic m.a.	Far	Left Galvanic m.a.
N. Facialis (root)	250	4	200	2
Facialis upper branch..	225	3	150	2
Facialis lower branch..	200	4	140	2
M. Frontalis	225	4	125	3
Orbicularis palpebrarum	140	4	75	2
Orbicularis oris	175	6	75	4
Levator menti.........	175	6	75	2

* Reaction throughout, Kcc>Acc quick. No reaction of degeneration; nerves and muscles of affected side show hypoexcitability to both forms of current. Electrodes: Indifferent cm.², 16; examining, cm.², 0 75 Gaiffe faradic coil, bobine medium. Power from three dry batteries.

Figure 3 shows the atrophy that follows the cutting of the hypoglossal nerve. A slight impediment of speech exists, which is of little moment to this patient, but for one in a different social position it would amount to a real handicap. Just recently I saw a friend who has had Bell's paralysis for twenty-five years or more. At present this man occupies a very important position in which a considerable amount of talking is necessary. Had the hypoglossal nerve been severed it would have caused a real handicap to this patient in the matter of speech. Had the spinal accessory been used with success, however, I am confident it would have prevented the drooping and turning outward of the lower lid. The tonicity of the muscles would have been such that in repose, at least, the facial paralysis would not have been obvious.

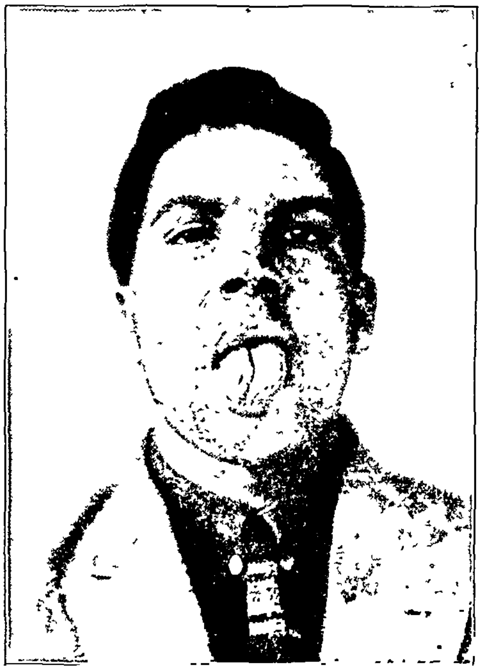

Fig. 3.—Patient shown in Figure 1 three years after anastomosis operation. Atrophy of tongue as result of severing hypoglossal nerve.

For this reason alone, I believe the spinal accessory should be the nerve of selection rather than the hypoglossal.

Shreve Building.

COMMINUTED GUNSHOT FRACTURE OF THE FEMUR, WITH FIXATION BY BONE-PLATE AND WIRES

F. B. Lund, M.D., Boston

On June 22, 1913, the patient was shot in the right thigh by a 0.32-caliber revolver in the hands of a policeman, the bullet shattering the femur. He had been put to bed with extension, but the position was poor; the leg was considerably bowed outward. He was very uncomfortable, with a *2-inch shortening, and had a high temperature.* Roentgenograms taken by Dr. Ellsworth showed a fracture of the upper third of the femur (Fig. 1), with a piece about 5 inches long split out of the bone, and marked anterior projection of the upper fragment. I saw the patient in consultation with Dr. Walter Sargent of Quincy.

At the Quincy Hospital, July 2, with the assistance of Dr. N. S. Hunting and Dr. Sargent, I made an external incision 12 inches long, exposed the bone, and under strong extension brought the ends together with some difficulty and forced the fragment into place with Bartlett's clamp, so that the contour of the bone was very good indeed. Then an 8-screw Lane plate of the largest size was applied. I could insert only three screws in the upper fragment, but four were placed in the lower. The detached fragment, which lay at some little distance from its proper position, was bound by two silver wires passed around bone, plate and all, thus restoring the fragments practically to their normal position, in which they have since remained. A plaster-of-Paris spica was put on.

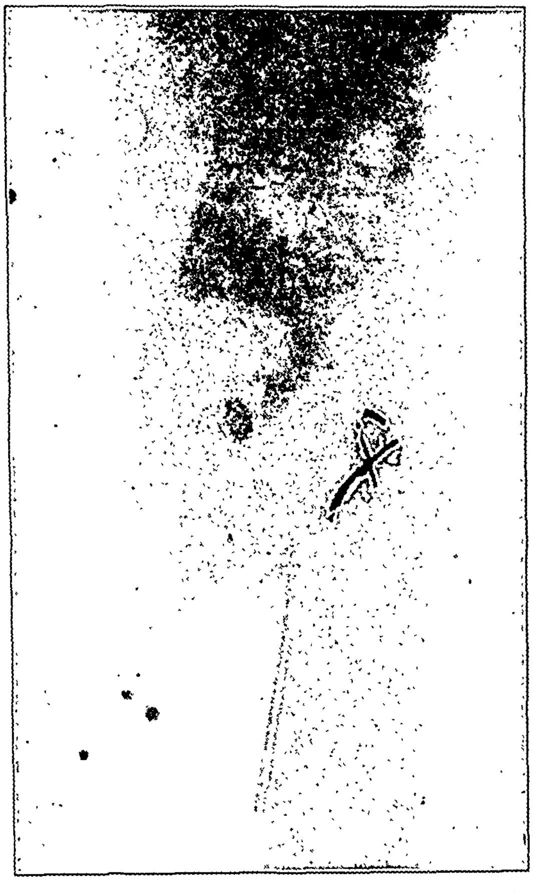

Fig. 1.—Position of the two principal fragments before operation; the detached piece is not shown.

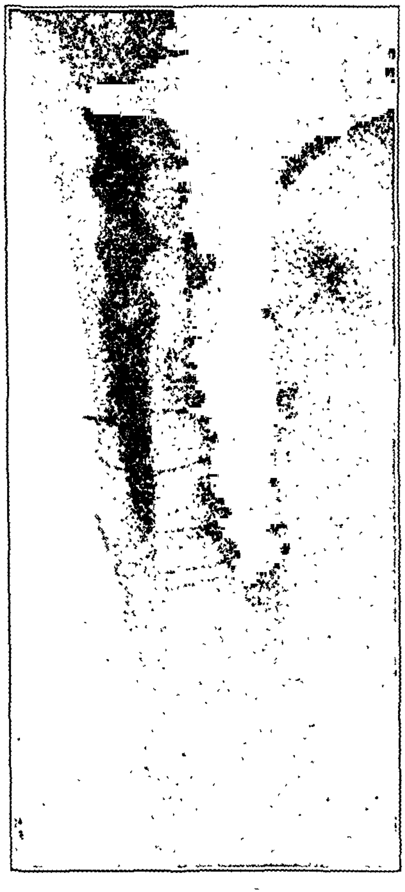

Fig. 2.—Postoperative roentgenogram.

The wound healed by first intention and the bone remained in first-class position. The patient came to my office for observation, October 25. I found the leg perfectly straight, and he was able to bear his weight on it. There was a half-inch shortening but the leg was absolutely straight and in perfect position.

The case is reported because the fracture was oblique and comminuted, and because with the ordinary Buck's extension it had been impossible to force the fragments anywhere near apposition. The patient was a muscular, powerful man. I *do not believe that without operative interference* any sort of union could have been obtained. As will be seen from Figure 2, I used the largest size eight-screw plate. I have had smaller plates both bend and break in the treatment of transverse fractures of the femur in muscular men. I believe that in the femur, fixation is much better with the larger plate, *and the more absolute the fixation, the less likelihood there* is of irritation and of the plate's having to be taken out. The heaviest Sherman plates are good, but it seems to me that for the upper third, as in the case of this man, the heaviest plate made is not too heavy. The length of the plate permits racking of the ends, and warping out of the screws, so that *a long plate as well as a heavy one is desirable. Instead of* the two wires, if I had had them with me, I should have used the steel band of Parham and Martin, which they have designed for oblique fractures, but which might perfectly well be used in a case such as this in conjunction with a plate. The aid of Bartlett's clamp could hardly have been dispensed with in this case. The ordinary screws with their large thread I think are better than the fine-threaded Sherman screws.

In operating on smaller bones than the femur, smaller plates or even wire fixation may be used, and the effort may legitimately be made to use as small a foreign body as compatible with holding the bones.

527 Beacon Street.

Case of Swallowed Open Safty-Pin.—The following case seems to us to be sufficiently unusual and interesting to report: Evelyn S., aged 3, choked on an open, small-sized safety-pin at 6 p. m., Dec. 29, 1913. We failed either to see or to feel it under anesthesia, and referred her to Dr. Mersefelder of Canal Dover for roentgenoscopy. The rentgenogram showed a rather obscure shadow of the pin in the region of the stomach, the point unfastened and directed upward and to the right. The child went home for the night, but on account of soreness would neither eat nor drink. On the afternoon of December 30 we sent her to the Union Hospital and attempted to start forced feeding without catharsis. For the next twenty-four hours she would vomit everything she could be prevailed on to swallow, even liquids, although she was quite hungry. December 31, at 2 p. m., we passed a No. 26 catheter through the esophagus and into the stomach without encountering any unusual obstruction. Immediately afterward she ate ravenously without vomiting and without further trouble. The first bowel movement since the pin was swallowed occurred Jan. 2, 1914, at 9 a. m., and in it was passed the open pin firmly impacted in a large scybalum.—R. S. Barton, M.D., and H. A. Coleman, M.D., New Philadelphia, Ohio.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

The following dosage forms of an accepted proprietary article have been accepted for inclusion with New and Nonofficial Remedies:

CORPUS LUTEUM CAPSULES.—Each capsule contains desiccated corpus luteum, Armour, 0.3 Gm. (5 grains).

CORPUS LUTEUM TABLETS.—Each tablet contains desiccated corpus luteum, Armour, 0.13 Gm. (2 grains).

GRANULAR EFFERVESCENT SALICYLOS.—Pulvis Salicylatum Effervescens, Mulford.—This preparation has been accepted for inclusion with the appendix to New and Nonofficial Remedies.

A mixture said to contain in each 100 Gm. strontium salicylate 6.54 Gm. (24 grains per ounce), ammonium salicylate 6 54 Gm. (24 grains per ounce) with an effervescent base consisting of sodium bicarbonate and citric and tartaric acids.

Therapeutics

LECITHIN; EGG-YOLK

Phosphorus is such a necessary element in the perfect development and health of the cells of the body, and is so essential in the proper functioning of many parts of the body, especially nervous tissue, that any preparation said to present phosphorus in composition in assimilable form immediately causes clinical interest. Lecithin is a compound of phosphorus that is found in the organism, hence, when it was artificially prepared for administration in various diseased conditions, it became very popular, and was and is highly lauded as a treatment for all kinds of debility, anemias, nervous disturbances, mental diseases and neurasthenia.

In the first place, phosphorus is a constituent of nucleoproteins, and some kinds of phosphorized fats or lipoids, of which lecithin is an example. Phosphoproteins are contained in milk as caseinogen and in the yolk of egg as vitellin.

The discussion ever persists as to which elemental form is of greater value for the nutrition of the body, an inorganic salt or an organic combination. This is particularly true of iron and of phosphorus. It has been demonstrated almost beyond controversy that an ordinary person can metabolize an inorganic iron as readily and as perfectly as an organic iron, and this seems to be more or less true of phosphorus, administered in the form of phosphates or other salts. Also, it has been shown many times that organic phosphorus, as presented in milk or in eggs, probably changes in the body to phosphates, and from these salts it is elaborated into products as lecithin, so that there seems to be no physiologic or biologic reason for preferring isolated lecithin as a medicament to such a phosphorus-bearing food as the yolk of egg.

Phosphorus seems to stimulate metabolism, and often the person who receives phosphorus in any form seems not only to have an increased glandular and nervous activity, but also an increase in general nutrition. Phosphorus as an element, or such an active preparation as zinc phosphid, should rarely be administered as a medicament, as either irritates the gastro-intestinal canal, overexcites the glandular system, especially the liver, and causes more or less irritation of the kidneys. When the question is one of nutrition and the stimulation of the metabolism of the body as a whole, and not of a treatment to ameliorate a troublesome symptom, or of an antidote to any diseased condition, it seems inexcusable to administer drugs that may do harm.

The lipoid lecithins are phosphatids, and are substances of waxy consistence, soluble in alcohol, but insoluble in water. They are generally prepared from the yolk of eggs, probably are never quite pure, and contain about 4 per cent. of phosphorus. When lecithin is broken up it results in glycerophosphoric acid, a fatty acid, and cholin, which is a more or less poisonous nitrogenous base.

Under the influence of lecithin the number of red corpuscles and the hemoglobin content in anemic conditions may be increased. That lecithin is a "brain food," or is a stimulant to cerebral activity has never been proved. All statements to that effect are fallacious; in fact, there is no specific food for any part of the body. Certain nerve disturbances and certain cerebral and mental disturbances may at times increase the phosphorus output in the urine, and cause nucleoprotein, and, perhaps, lecithin disintegration; but the mere administration of lecithin, as such, could hardly be expected to improve such a condition.

The logical measure, when a physiologic nutritional phosphorus is desired, is the administration of egg-yolk. The yolk of the hen's egg is stated by Friedenwald and Ruhräh[1] to represent 49.5 per cent. water, 15.7 per cent. protein and 33.3 per cent. fat. The yolk of the egg is therefore rich in fat and protein, and has caloric as well as nitrogenous value. To obtain the activity of the lecithin content in the yolk of the egg it is perhaps best to administer the yolk raw. It certainly seems to be a fact that the administration of one or two raw or even cooked yolks of eggs per day would give a patient all the lecithin that he could metabolize, and present it in a better manner than in an artificial preparation. In any condition of debility, anemia or nervous disturbance the yolk of egg is as valuable as any or all artificial lecithins, or any preparation that combines nucleins and nucleoproteins.

It may be here stated, parenthetically, that the value of raw egg-white, or egg-albumin, as a nutrient has been very much overlauded, and dependence on egg-albumin as a food in serious conditions is a mistake. Egg-white has been found in some cases to pass very rapidly through the stomach without digestion, and to be incompletely digested in the intestine. Thus it may cause diarrhea, as well as fail to give nutrition.

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[1] Friedenwald and Ruhräh: Diet in Health and Disease, 1913, p. 106.

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DEATH BY FREEZING

It is scarcely necessary to explain to those engaged in the practice of medicine wherein the importance of ascertaining the precise cause of every death lies. Even if it were of no serious value to medical science (though in fact the contrary is unquestionably true), the legal aspects alone of the incidence of death present a strong plea for accurate, detailed and decisive knowledge regarding the demise of every member of the community. In the United States deaths from freezing form at most a very small proportion of the losses of life which require classification. As a rule circumstantial evidence must assist to make the determination of this mode of death comparatively easy, though alcohol and the rigor of climate are doubtless interwoven in many a case so as to render it difficult if not impossible to place the burden of immediate cause on the real factor. Death from freezing acquires a distinctly greater prominence, however, in countries like Russia, where the number of cases is reported to reach from 500 to 700 annually, and where in a single city like Riga the cause of death is attributed to cold at 9 per cent. of the medicolegal necropsies.

Reliable signs of death from undue cold are desired not only in those cases in which alcoholism may be a complicating and primary factor, but also in the case of a not inconsiderable number of new-born infants who are peculiarly susceptible to the fatal effects of the low temperatures prevailing in certain countries. Here the necropsy findings give little in the way of directive evidence. Most authorities in medicolegal matters have passed over the subject as one either devoid of serious interest or else unable to furnish a helpful solution.

The cause of death from extreme cold has been associated with a variety of pathologic consequences which doubtless cooperate in many instances. We may refer to the accumulation of carbon dioxid; the paralysis of the vagus nerve or of the vasomotor center; the undue loss of heat from the body; the engorgement of the heart with blood; an anemia of the brain; destruction of the red blood-cells, etc. None of these conditions leaves a record which can be deciphered as characteristic, if indeed it can be detected at all, at necropsy.

Dr. Krjukoff[1] of the Institute for Legal Medicine at the University of Moscow has reached the conclusion that the examination of the liver for carbohydrates will furnish a clue for discriminating between death from cold and death from other causes leading to a sudden end. Among the latter are included such circumstances as injury, asphyxiation, hanging, drowning, poisons, cardiac failure and other conditions in which life is precipitately terminated. Here there is little if any opportunity for nutritive changes, such as the transformation of the glycogen in the liver, to intervene. Cold, on the other hand, is a vigorous promoter of metabolic changes, particularly such as will liberate energy in the form of heat to conserve the threatened body temperature. Krjukoff argued that it is more than likely that the readily available carbohydrate of the liver would speedily and early be drawn on in the physiologic struggle to avert the impending catastrophe. This is at any rate in accord with evidence respecting the effect of lowered temperature on animals. In ten cases of death by cold (in man) glycogen was entirely lacking in the liver. In cases in which intoxication with alcohol was a factor, liver glycogen was still found present. The point of view here represented is based on reasonable physiologic considerations. More evidence is now needed to give some standing to this alleged characteristic sign of death by freezing.

TARTRATES AND NEPHRITIS

Our attention has lately been called to the advertisement of a well-known brand of "absolutely pure, cream-of-tartar baking-powder," in which the following passage occurs: "Cream of tartar is the crystallized acid of grapes refined to absolute purity and ground to a creamy flour. It is declared by physicians the most wholesome of all fruit acids." Without entering into a discussion of the partial incongruity of the definition which represents cream of tartar as a crystallized acid, we may still take issue with the remaining assertion respecting a product so widely used as are baking-powders of this class. It is, indeed, a matter of surprise *to find how little is known and recorded in the literature* with regard to the fate and physiologic action of some of the typical "fruit acids," among which are citric, malic, tartaric and benzoic acids, and their salts. The volumes to which the long-controverted question of desirable versus undesirable baking-powders has given rise have, strangely enough, not taken into cognizance some of the effects of tartrates which recent investigations have brought to light.

Many of the organic acids, like citric and acetic acids, are burned up in the body, giving rise to carbon dioxid and water. When their alkali salts are ingested, therefore, the end-product of their metabolism is alkali car-

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1. Krjukoff, A.: *Beitrag zur Frage der Kennzeichen des Todes durch Erfrieren*, Vrtljschr. f. gerichtl. Med., 1914, xlvii, 79.

bonate. It is widely recognized that sodium citrate, for example, functions precisely like sodium carbonate in the organism. Other organic acids, notably benzoic acid, traverse the body unchanged; in the case here selected the substance introduced reappears, combined with glycocoll, in the form of hippuric acid. Physicians have not realized that tartaric acid and its salts are for the most part not destroyed in the body and leave it in their original form. Within the past few months several researches have brought into prominence the fact that tartaric acid and its salts under suitable conditions may give rise to symptoms of nephritis of varying severity.[1]

The investigators are agreed on the main features of the action of large doses of tartrates so far as they are observed to cause a pronounced disintegrative action on the epithelium of the kidney in animals. Associated with this there is noted to be a greatly diminished volume of urine and a marked decrease in the elimination of certain of the urinary constituents. The severe renal disturbance may be attended by the excretion of protein and casts when there is not complete anuria. Such sequences are described for various forms of administration of the tartrates, by mouth, intraperitoneally or subcutaneously. According to Underhill and his colleagues, the changes induced in the kidney are confined almost exclusively to the tubular epithelium, and they even believe incidentally that this fact will afford a means of studying various phases of defective renal secretion with practically intact glomerular structure. The Philadelphia investigators, Pearce and Ringer, agree in describing the striking histologic change in the kidney as a defect of the convoluted tubules, with fatty changes in the loops of Henle and sometimes also in the collecting tubules. On the other hand, they report exudative glomerular lesions in about half of the subjects with severe tubular lesions. In the disintegrative changes taking place, vacuolation first occurs, is rapidly followed by necrosis and finally the dead cells or their débris may entirely fill the lumina of the tubules and form granular and hyaline casts. Neither the liver nor the adrenals exhibit any pathologic defect attributable to the tartrates in such cases.

The mode of administration to animals does not influence the character of the renal lesion, except that diarrhea, following administration by mouth, may cause rapid removal of the harmful salt from the intestine, and thus prevent the severer types of lesion by reducing the extent of absorption. No strict relation between the dose of tartrate and the extent of damage inflicted has yet been made out. A varying resistance or degree of tolerance seems to hinge on the character of the diet, when tartrate is given by mouth. In well-fed animals the pathologic changes induced by feeding the salts of tartaric acid, though distinct, are less in degree than those which are provoked by the same dose in starvation. There is even evidence that the actual state of nutrition plays some part in the development of tartrate nephritis.

Underhill, Wells and Goldschmidt[1] have noted that histologically there is evidence that the administration of alkali exerts a slight modifying action, presumably permitting a readier elimination of urinary waste-products. It is deserving of emphasis that the observations on tartrate nephritis are not in harmony with the widely discussed hypothesis of Fischer.[2] He has mentioned tartrates, among other salts, as being of value in the prevention of nephritis — a dangerous statement in view of the foregoing evidence to the contrary. Probably, as Underhill and his colleagues suggest, Fischer, like many others who generalize in physiology, assumed that tartrates are readily burned to carbonates in a manner similar to certain other salts of organic acids discussed above.

It would be unwise to magnify the dangers of tartrate in the face of their long use in baking-powders, in the well-known purgative mixtures like Seidlitz powders and Rochelle salt, and their actual occurrence in foods. But when we are reminded that in certain instances of chronic kidney involvement cream-of-tartar water is often prescribed for the promotion of diuresis, and that the use of tartrate purgatives is tending to be overdone in many quarters, it is time to inquire into the possibility of unsuspected dangers. If the benzoates are condemned, shall the tartrates be condoned? Some help toward an answer to this question, so far as it involves the practical use of tartrates in clinical medicine, is given in the article by Post,[3] published elsewhere in this issue of The Journal. He has demonstrated that when potassium and sodium tartrate is given in ordinary doses by mouth to human subjects it need not cause albuminuria or cylindruria; nor is there any evidence to show that tartrates aggravate an existing nephritis in his clinical experiments. Post points out that the harmful doses used by the experimenters on animals would be equivalent to nearly 7 ounces in a man weighing 150 pounds. This is, of course, incomparably greater than the clinical dosage, which ranges from 1 to 6 drams. The fact that the administration of tartrates, even in nephritis, is not necessarily inconsistent with safe clinical practice, is thus reconciled with the pronouncedly harmful effects noted in the laboratory experiments. The dosage is apparently the decisive factor.

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[1] Underhill, F. P.: The Influence of Tartrates on Phlorhizin Diabetes, Proc. Soc. Exper. Biol. and Med., 1912, ix, 123; The Influence of Sodium Tartrate on the Elimination of Certain Urinary Constituents during Phlorhizin Diabetes, Jour. Biol. Chem., 1912, xii, 115. Underhill, F. P.; Wells, H. G., and Goldschmidt, S.: Tartrate Nephritis, with Especial Reference to Some of the Conditions under which it May be Produced, Jour. Exper. Med., 1913, xviii, 322. Salant, W., and Smith, C. S.: The Toxicity of Sodium Tartrate with Special Reference to Diet and Tolerance, Proc. Soc. Exper. Biol. and Med., 1913, x, 170. Pearce, R. M., and Ringer, A. I.: A Study of Experimental Nephritis Caused by the Salts of Tartaric Acid, Jour. Med. Research, 1913, xxix, 57.

[2] Fischer, M. H.: Nephritis, New York, 1912.

[3] Post, W. E.: *The Effect of Tartrates on the Human Kidney*, p. 592, this issue.

THE MODIFICATION OF SECONDARY SEXUAL CHARACTERS

The belief that the so-called secondary sexual characters are in large measure dependent for their appearance on an influence exerted by the genital glands on the other parts of the reproductive apparatus and on the body generally is not a new one. Castration carried out before the time of puberty prevents the development of these secondary sexual characters, which occurs at this epoch in both sexes. Castration after puberty, though not causing any pronounced changes in the skeleton which has already assumed a permanent form, brings about retrogressive manifestations in the remaining genital organs analogous to those occurring in the female at the climacteric. There was a time, not long since, when these interrelations were supposed to be controlled by nervous connections between the genital glands and the rest of the body. To-day there is a rapidly growing conviction that the secondary sexual characters must be ascribed to the influence of chemical substances—genital hormones—produced in the ovaries and testes, respectively, and distributed by the bloodstream. We are here dealing with another of the many evidences of "internal secretions" of specific glands.

Far more convincing and characteristic than mere extirpation experiments, such as castration exemplifies, are the results of the transplantation of genital organs. Some time ago we reviewed the striking results of Steinach[1] in this field of study. They showed the peculiar effects which transplantation of ovaries and testes into young castrated animals of opposite sex could actually bring about. The potential males became converted after this exchange of genital glands into individuals of unmistakable femininity which manifested itself in the modification of form and in the deportment of the animals. The inherent impulse in the direction of a distinctive secondary sexual development, in which physical features and habits of behavior are preeminently characteristic and specific for each sex, can be completely checked and reversed, so to speak, under the influence of the type of genital glands which is permitted or compelled to survive in a youthful organism. Even the psychosexual traits are modified in accord with the sort of gland that the individual is experimentally made to harbor.

Now, however, Steinach[2] has gone still farther in demonstrating the profound influence of the genital glands. He has carried the observations far beyond the stage of puberty. The preponderance, if not the consensus, of opinion at the present moment ascribes the hyperplasia of the mammary gland and the inception of milk secretion attending pregnancy to hormones which have their start in the developing fetus or in the placenta. Steinach has noted that if the transplanted ovaries find a firm foothold and succeed in maintaining their nutritive equilibrium in his "feminized" males the development of the female sexual characters is even accentuated. The growth alterations ordinarily expressive of masculine features are inhibited so markedly that the female type becomes more conspicuous than ever. The rudimentary mammary organs, always present in the male as in the virgin female, may develop to a stage characteristic of the pregnant female. We learn the remarkable fact that the surprising hyperplasia of the mammary glands and their appendages may readily reach a stage at which typical milk, not mere exudate, is secreted in abundance. Steinach reports cases among his experimentally "feminized" males in which they not only have adopted the traits of maternal females, including a tolerant attitude toward young animals of the same species placed with them, but also have suckled the young animals.

These startling observations suggest that the significant influence of the ovary in determining and modifying character in the direction of developing the feminine type is not finished with the changes that are completed at puberty, but extends far beyond into the periods when lactation is involved. But Steinach and the roentgenologist Holzknecht have gone even farther. They have attempted to stimulate the ovary of the normal virgin female so as to cause it to induce some of these changes just described as evoked by the overactive transplanted ovaries. By suitable exposure of the region of the ovaries to the Roentgen ray, the juvenile, virgin characters were made to disappear in the non-gravid female, and to be superseded by the phenomena of lactation — enlargement of teats, hyperplasia of the mammae, secretion of normal milk and hypertrophy of the uterus.

By a comparable procedure of testicular transplantation it appears to be possible to induce the exhibition of masculine traits and features in the castrated female. Sex characters are therefore not fundamentally determined in advance throughout all the parts of the organism that ordinarily give exhibition of distinctive features; otherwise it would be impossible to remodel the sex-determined disposition of an individual so profoundly by an exchange of genital glands.

The sum total of the foregoing observations tends to confirm the view, expressed by several authors,[3] that the essential factors for the production of the genital hormones are the "interstitial" cells found in both the testes and ovaries of various animals. The genital glands are thus believed to contain gland-cells of two distinct and functionally independent types. These interstitial cells, however, are apparently not universally present. It has been shown that, by means of the Roentgen rays, it is possible to destroy the germ-cells in either testes or ovaries, so rendering the animals sterile. Whether the interstitial cells, which are not destroyed by these rays, are the originators of the unique effects in respect to secondary sexual development and the awakening of mammary activities remains to be determined. It is at length becoming probable, from the experimental researches of the past few years, that we shall presently see remarkable developments in the direction of influencing some of the functions hitherto regarded as beyond the pale of physiologic or therapeutic modification.

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[1] What Determines the Development of the Secondary Sexual Characters? editorial, THE JOURNAL A. M. A., Feb. 17, 1912, p. 484. Steinach, E.: Geschlechtstrieb und echt sekundäre Geschlechtsmerkmale als Folge der innersekretorischen Funktion der Keimdrüsen, Zentralbl. f. Physiol., 1910, xxiv, 328; also, Arch. f. d. ges. Physiol., 1912, cxliv, 71.

[2] Steinach, E.: Feminierung von Männchen und Maskulierung von Weibchen, Zentralbl. f. Physiol., 1913, xxvii, 717.

[3] Starling, E. H.: Human Physiology, 1912, p. 1362.

CARDIAC AND RENAL DYSPNEA

The question of the controlling factors in the regulation of respiration has furnished one of the long-debated topics of physiology. Excess of carbon dioxid and deficiency of oxygen in the circulation have each been credited with being the effective agent in promoting increased respiration. The trend of recent investigation has tended to show that each of these may represent a factor of moment, inasmuch as the respiratory center can be excited by either condition; but it has now been established, in particular by the studies of Haldane and his pupils in England, that the sensitivity of the center to carbon dioxid is by far the more important feature of the increased respiratory movements in asphyxia. Indeed, it is the only chemical factor which can at present be regarded as playing any important part in the regulation of the respiratory movements under normal conditions.

The acquisition of a fundamental chemical basis for the understanding of the processes by which respiratory activities are controlled has made it far easier to investigate the pathology of respiration intelligently. In the clinic one encounters various types of dyspnea which cannot be relieved properly until there is some adequate appreciation of the underlying disturbance. Forms of breathlessness are common to certain cardiac and renal patients, and lately a clear-cut distinction has been pointed out between the degree of breathlessness and the degree of cyanosis in certain groups of cases. It is well known that there are many persons who suffer at times from an underaeration of the blood. In these persons a blue tint is a conspicuous manifestation. This may occur in forms of congenital disease of the heart in which the venous blood is in part short-circuited by the lungs and returned to the arterial system in an unaerated condition. The dyspnea of the patients who show deep cyanosis is not always great; in fact, the deficient aeration has sometimes to be considerable before urgent dyspnea is exhibited. On the other hand, we are told by investigators who have given careful consideration to these problems that although a proportion of those heart patients who suffer from labored breathing show what may be termed deep cyanosis, yet a large, if not equal number, though breathless, are far less blue.[1] They remark that in extreme instances the breathlessness of a patient may be urgent, yet cyanosis may be slight or even absent. Obviously, a person who suffers from deficient blood aeration, that is, oxygen deficiency, must inevitably be blue; but when there is no cyanosis to suggest a cause for the breathlessness, some occasion for the dyspnea other than the purely physical relations of blood and air in the pulmonary alveoli must be found, for in such cases there is no evident deficiency in aeration. In these instances an additional cause for the more vigorous movements of respiration has been found by the English investigators in the relative acidity of the blood.

A new aspect is thus given to breathlessness, and especially cardiac dyspnea. When cyanosis, the index of deficient aeration, is sufficiently pronounced, this will of itself account for the labored breathing; otherwise acidosis must be called in to account for this symptom. The explanation naturally suggests itself that if the dyspnea of this type is not due to a lack of oxygen it may be accounted for by the second factor already discussed, namely, an accumulation of carbon dioxid caused by stasis. Blood analyses in the selected cases, however, show that it is not the result of excess of carbon dioxid in the blood.

How are we to account for an abnormal excess of acids other than carbonic acid over the bases of the blood — in other words, for the acidosis here presented and sufficient to act as a stimulus to the respiratory center which is so sensitive to acid conditions of any sort whatever? Investigation has shown that, in the cardiac cases at least, the condition of acid intoxication is not due to beta-oxybutyric acid, the compound which arises in such abundance in severer forms of diabetes. There is little evidence, furthermore, that lactic acid, another product of incomplete oxidation, is a prominent cause of the difficulty. The acidosis, as the English investigators believe, appears to be another instance of the phenomenon of retention of acids in excess of bases, perhaps because of a failure of the kidneys in respect to the excretion of acid. If this explanation should be found sufficient, the condition would admit of simple treatment by giving a diet rich in bases or base-yielding foods.

In the past there has been considerable confusion in the use of the expressions "cardiac asthma" and "renal asthma" or "uremic dyspnea." In the latter class the predominating lesions are renal, whereas in cardiac asthma the heart seems to be the seat of the difficulty. Lewis and his colleagues[1] regard it as probable, though it cannot be held as finally proved, that there is no essential difference between "cardiac" and "renal" asthma, so-called, and that the dyspnea of the cardiac cases, when neither anemia nor cyanosis is conspicuous, arises in the majority of cases from acid intoxication and is in reality due ultimately to renal defects. This does not exclude other instances of pure cardiac cases in which excessive accumulation of carbon dioxid in the blood sufficiently accounts for its reaction and the respiratory stimulus.

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[1] Lewis, T.; Ryffel, J. H.; Wolf, C. G. L.; Cotton, T., and Barcroft, J.: Observations Relating to Dyspnea in Cardiac and Renal Patients, Heart, 1913, v, 45.

REFLECTIONS REGARDING CHOLESTEROL

Inasmuch as the newer researches concerning the intake and output of cholesterol in the body give little evidence of any new formation of this important compound in the organism of the higher animals, information regarding the ways in which the supply of this lipoid is altered must be heartily welcomed. Cholesterol has long attracted attention because it occurs pathologically not only in the familiar form of gall-stones, but also in tissues the cells of which are undergoing slow destruction and in which absorption appears to be poor. It is also frequently found in atheromatous patches in the blood-vessels, encapsulated caseous areas, old infarcts and hematomas, inspissated pus collections, dermoid cysts, hydrocele fluids, etc.; and in the cholesteatomatous tumors of the ear and cranial cavity. But such occurrences of cholesterol are, perhaps, of secondary moment in comparison with the rôle which it plays in the behavior of the blood-corpuscles and the numerous phenomena connected with so-called immunity reactions, all of which are a decidedly modern aspect of biochemical study. The specific blood-tests may be cited as illustrative of the various processes in which cholesterol and other lipoids have been demonstrated to be seriously involved. No earnest discussion of serologic work can be undertaken to-day without reference to them.

With the biologic importance of cholesterol thus plainly emphasized it seems incumbent to follow its history in the organism and to learn its physiologic and pathologic migrations and fate as thoroughly as may be possible by present-day methods. It seems more than probable to-day that the cholesterol of the blood is normally so distributed that the cellular elements contain the compound in its free state. The leukocytes are far richer in cholesterol than are the red corpuscles. In the blood-serum, on the other hand, cholesterol is found both free and in the form of its fatty acid esters. Broadly speaking, the cholesterol content of the blood of normal individuals appears to be constant under fixed conditions of diet and living. It can be enhanced by feeding cholesterol as such, whereby both the free cholesterol and its esters are increased in quantity in the circulating medium. Subcutaneous administration of cholesterol likewise brings about its augmentation in the blood-serum. The corpuscles are affected slightly, if at all, by such enrichment of the medium in which they float. Wacker and Hueck[1] have made the added discovery that long-continued administration of liberal amounts of cholesterol may lead to an increase not only of its derivatives, but also of other lipoid substances. It may be deposited in various organs, such as the liver, kidney, spleen, bone-marrow, gall-bladder, adipose tissue, etc. A point may be reached at which cholesterol depositions occur in the mucosa of the gastro-intestinal tract; they may even occasion a diseased condition of the aorta which in many ways resembles the features of arteriosclerosis in man.

The knowledge of the possibility of modifying the cholesterol content of the tissues of the body by the regulation of its supply opens unsuspected possibilities in directions which can be only inadequately foretold at present. We need but refer to the reputed relation of cholesterol to growth, particularly so far as it involves the development of neoplasms. Robertson and Burnett[2] have asserted that cholesterol accelerates the growth of carcinoma in rats and may be a factor in the incidence of cancer. According to Burnett, it has an accelerating action on malignant tumor growth, whether it be injected into the tumor or carried to it by the circulation. If it prove true, as now is maintained by various investigators,[1, 3] that cholesterol is not synthesized by animals, the cholesterol in their tissues being derived from the diet, the possibility is suggested of diminishing the incidence of carcinoma in inoculated animals by feeding them for a considerable period prior to the inoculation on a diet poor in cholesterol. Experiments have failed as yet to substantiate this hypothesis. Robertson and Burnett, however, have called attention to the fact that animals tend to conserve and accumulate cholesterol, and Wacker has noted an excessive content of the substance in the reserve fats of aged persons. It has been surmised, accordingly, that this in turn bears a relation to the well-known increase in the incidence of carcinoma with advancing age.

For the moment it matters little whether the facts keep pace with the hypotheses in the restricted domain of application which cholesterol biochemistry has thus far found in connection with cancer research. Our aim here is primarily to point out that when more knowledge is accumulated respecting the source and fate of cholesterol in the organism it is certain to have important biologic applications. Already it is becoming apparent that the cholesterol supply of the body can be demonstrably affected by dietary or therapeutic measures, and that cholesterol is no fortuitous component of the organism.

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[1] Wacker, L., and Hueck, W.: Ueber den Cholesteringehalt des Blutes verschiedener Tiere und den Einfluss künstlicher Cholesterinzufuhr, besonders mit der Nahrung, Arch. f. exper. Path. u. Pharmakol., 1913, lxxiv, 416. See also the more recent evidence of Lehmann, E. P.: On the Rate of Absorption of Cholesterol from the Digestive Tract of Rabbits, Jour. Biol. Chem., 1914, xvi, 495.

[2] Robertson, T. B., and Burnett, T. C.: Preliminary Report on the Influence of Lecithin and Cholesterin Upon the Growth of Tumors, Proc. Soc. Exper. Biol. and Med., 1912, x, 59; Preliminary Communication on the Part Played by Cholesterol in Determining the Incidence of Carcinoma, ibid., 1913, x, 140; Jour. Exper. Med., 1913, xvii, 344. Burnett, T. C.: Further Note on the Influence of Cholesterol on the Growth of Tumors, Proc. Soc. Exper. Biol. and Med., 1913, xi, 42.

[3] Dorée, C., and Gardner, J. A.: Proc. Roy. Soc., London, 1908, lxxx, B, 227; 1909, lxxxi, B, 109. Ellis, G. W., and Gardner, J. A.: ibid., 1909, lxxxi, B, 129. Gardner and Lander: The Cholesterol Content of Growing Chickens under Different Diets, ibid., 1914, lxxxvii, B, 229.

Current Comment

EDUCATIONAL LECTURES ON MUNICIPAL HYGIENE

Most of the leading educational agencies of the present day recognize the value of the personally delivered message as a means of educating and influencing public opinion. The editorial, the pamphlet, the cartoon and the exhibit have a definite worth, but none of them seems to compare in effectiveness with the spoken message of an authoritative speaker. Some form of speakers' bureau is a recognized part of all successful educational campaigns. The department of social development of the Brooklyn Bureau of Charities has organized a speakers' bureau to supply lecturers on municipal problems. A directory of the men available shows a large number of well-known and recognized authorities on such subjects as women's wages, industrial accidents, old-age insurance, child labor, housing, disease prevention, foods and drugs, preventive medicine, outdoor recreation, causes of crime and vice, liquor problems, care of the insane and feeble-minded, city beautification, immigration, etc. These subjects are to be discussed from the special point of view of the New York citizen rather than in a general way. Such an educational campaign is characteristic of present-day ideas and ideals of social progress, and cannot fail to have a beneficial effect on social conditions.

THE AMINO-ACIDS IN THE BLOOD

With his characteristic energy and ingenuity the German physiologist, Emil Abderhalden, has at length succeeded in demonstrating the presence of amino-acids in the serum of the blood by the direct isolation and identification of a number of these protein derivatives.[1] That amino-acids are to be found in the circulating blood could scarcely be doubted since the exploratory work of Van Slyke and Meyer, Folin and others in this country has pointed to the probable absorption and distribution of the products of protein digestion in the form of amino-acids. There have long been evidences of the existence of non-coagulable nitrogenous compounds other than urea in the blood. The analytic figures, however, show that the residual margin for this type of derivative is very narrow, and that the content of such substances circulating at any moment in the blood-stream must be extremely small at best. Abderhalden has outdistanced his predecessors by working on a large enough scale, literally with dozens of gallons of blood, to succeed in separating the actually occurring products as such. One is reminded here of the enormous task which Krüger and Salomon[2] undertook some years ago when they analyzed 10,000 liters of urine in order to determine the nature of the small quantity of purins other than uric acid which are ordinarily found in the secretion of the human kidney. The thought of a university chemist manipulating from 50 to 100 liters of blood at a time reminds one more of a factory than of a physiologic laboratory. It was by such heroic efforts, however, that small quantities — not more than 0.4 gm. of pure substance in any single instance — of the following amino-acids were obtained and identified: prolin, leucin, valin, alanin, glycocoll, aspartic acid, glutaminic acid, arginin, lysin and histidin. Even in starvation the blood was not found entirely devoid of amino-acids, so that Abderhalden suggests the possibility that the amino-acid content of the blood may perhaps be kept at a constant level somewhat as is its quota of sugar. The future may accordingly find it appropriate, as he remarks, to speak of a hyper-amino-acidemia or hypo-amino-acidemia representing specific alterations in the level here referred to. No sooner have we recorded one evidence of progress in this field of research[3] than another step in advance is ready to be told.

THE VORACITY OF CERTAIN DIABETICS

Through the recognition of the intimate relation of the sensation of hunger to contractions of the empty stomach, which may now be accepted as an established physiologic fact,[4] the nature of the polyphagia which attends certain conditions of disease may now be investigated. The great voracity of animals suffering from pancreatic diabetes is well known to laboratory workers. In man, comparable polyphagia is sometimes seen in the course of diabetes mellitus or marasmus arising from other causes. The accentuated desire to eat cannot be ascribed to the state of existing undernutrition alone; for it is usually missed entirely in numerous other even more extreme cachexias in which food is persistently refused. Recent observations of Luckhardt[5] at the University of Chicago clearly indicate that in the diabetic state the polyphagia is attributable to true hunger rather than to some perverted appetite induced by the condition involved. A comparison of the contractions of the stomach before and after operative removal of the pancreas in dogs shows that the gastric contractions not only persist with singular vigor after the operation, but become even more intense with the progress of the induced disease, just as the voracity of the patient increases during the terminal stages of the disease. Accordingly, the desire for food is the result of true hunger pains brought about by real hunger contractions of the stomach. Luckhardt notes the surprising fact that the smooth musculature of the stomach shows an untiring activity at a time when the skeletal musculature of the body is becoming extremely susceptible to rapid fatigue; in fact, the strength of the gastric contractions has been seen to increase as the power of the voluntary musculature is diminished. We are here dealing with a desire to eat in no wise attributable to a morbid longing for food or a perverted appetite.

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[1] Abderhalden, Emil: Nachweis von freien Aminosäuren im Blute unter normalen Verhältnissen, Ztschr. f. physiol. Chem., 1913, lxxxviii, 478.

[2] Krüger, M., and Salomon, G.: Die Alloxurbasen des Harns, Ztschr. f. physiol. Chem., 1898, xxiv, 364.

[3] Compare editorials: In What Form Are Protein Digestion Products Absorbed? The Journal A. M. A., Dec. 20, 1913, p. 2245; What Becomes of the Protein Digestion Products? Jan. 24, 1914, p. 303. Intravenous Nutrition, Jan. 31, 1914, p. 385. A New Method of Investigating the Circulating Blood, Feb. 7, 1914, p. 459.

[4] The Gastric Movements in Hunger, editorial, The Journal A. M. A., Sept. 27, 1913, p. 1044; The Call of the Empty Stomach, ibid., Oct. 4, 1913, p. 1300.

[5] Luckhardt, A. B.: The Cause of Polyphagia in Pancreatic Diabetes, Am. Jour. Physiol., 1914, xxxiii, 313.

SURGEON-GENERAL OF THE NAVY

February 7, in accordance with his policy of making appointments for one term of four years, Secretary Daniels sent the name of Medical Inspector William C. Braisted to the Senate to succeed Dr. Charles F. Stokes as Surgeon-General of the Navy. Secretary Daniels said further,[1] in a tribute in which we join, "Dr. Stokes has completed a four-year term of able administration, during which he has effected many important and beneficial changes; he has brought the bureau of medicine and surgery, the naval hospitals, and ships' medical departments to a high standard of efficiency. The Secretary has the highest opinion of the ability and splendid service rendered by the retiring Surgeon-General. Under his administration important reforms have been inaugurated. Never has the standing or reputation of the medical corps of the Navy been so high as it has reached under the administration of Dr. Stokes." The new Surgeon-General was born in Ohio, Oct. 9, 1864, and entered the Navy as an assistant surgeon in 1890. He was recently promoted to his present rank of medical inspector and has been serving as fleet surgeon of the Atlantic fleet.

PRACTICAL EUGENICS

The extent to which the good and bad qualities of one generation are transmitted by heredity to another generation is an unsettled question; but there is no doubt that the conditions surrounding the fetus *in utero* have much to do with the vigor with which it enters on its extra-uterine life. Prenatal care of the mother is a logical extension of the philanthropy which is seeking to conserve the vital resources of the nation by the care of infants. Provision for such antenatal care has been made for the past four years by the Committee on Infant Social Service of the Women's Municipal League of Boston, and its example has been followed in a number of other cities. The committee now has made its report for the first four years of its existence with statistics for a part of the fifth year. The work of the committee has been restricted to the visiting of pregnant women once in ten days by a competent nurse, who takes blood-pressure, examines urine and advises regarding diet and regimen, but gives no drugs, with the exception of cascara. The success of the work is judged by the decreasing frequency of eclampsia, stillbirths, premature births, and by the increase in the weight of the babies. In all these particulars they record a steady improvement as the result of prenatal care. Thus the figures for percentage of cases of threatened eclampsia for the first four years are, respectively, 10.2 per cent., 4.8 per cent., 1.7 per cent. and 0.0 per cent. The percentage of stillbirths fell from 2.6 per cent., the average for three years, to 1.7 per cent. for the fourth year. The corresponding figures for the premature births were 1.7 per cent. and 0.7 per cent. A slight increase in the average birth-weight is also recorded. These figures, the committee believes, present sufficient evidence of the effectiveness of prenatal care to justify the continuance of such work. The expense is slight, amounting to about three dollars a year per patient. It is intended to extend this treatment to private patients, the nurse reporting to the family physician instead of to the hospital, as is the case with the public work.

DOCTORS CAUGHT IN AN ANTISPITTING CAMPAIGN

The recent article by Stiles,[1] concerning the carelessness of some physicians in matters of hygiene, has been attacked from various sources as being too caustic and as exaggerating the facts. In Chicago recently an antispitting campaign was inaugurated by the police and health departments. Instructions were given to the police to enforce one of the various antispitting ordinances. The results of a day's campaign are thus reported in one of the Chicago dailies:

> Two physicians, Dr. O. H. B——— and Dr. A. H.———, were fined $2 and costs each by Judge Sabath yesterday for spitting. Seventy other men were fined $1 and costs. One was fined by Judge Dolan. Twenty-five were fined by Judge Goodnow in Hyde Park and three in Englewood. Dr. U. G. D——— spat on the floor of a State Street car at Forty-Seventh Street. A patrolman was riding on the car and arrested the physician.

On the other hand, it is reported that a conscientious policeman who caught himself in the act of expectoration took himself to the court and paid his fine.

THE ESTIMATION OF ACIDOSIS IN DIABETES

The symptoms of acidosis are at present commonly taken as indicating the direction of treatment and the prognosis in diabetes. The question as to what features of the acidosis complex should serve as a guide arises frequently. The estimation of one or more of the "acetone bodies," that is, the determination of the degree of ketonuria, has been taken into chief account by some students of the subject. It must be remembered, from the standpoint of the acid-intoxication theory, that acetone, aceto-acetic acid, and beta-oxybutyric acid are not identical in their mode of behavior. It has now been demonstrated repeatedly that the pressure of carbon dioxid in the alveolar air falls with the increasing acidosis of diabetes, rises under the administration of an alkali like sodium bicarbonate, and during coma reaches a very low point. Kennaway, Pembrey and Poulton[2] have come to the conclusion that the estimation of the alveolar pressure of carbon dioxid by Haldane's method is at present the best guide in the prognosis and treatment of diabetes. Diabetic patients discharging large quantities of sugar in the urine may have a normal value for the alveolar carbon dioxid; the determining factor appears to be the extent of acidosis. Estimations of the total acetone bodies are not of such importance from the prognostic point of view, for the variations in the absolute amounts do not run parallel with the alveolar carbon dioxid and give no indication of the onset of coma. The chief drawback at present to estimating the degree of acidosis by the alveolar carbon dioxid tension lies in the fact that it requires a special technic which, at present, few clinicians have mastered.

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[1] Army and Navy Register, Feb. 14, 1914.

[1] Stiles, Charles Waddell: In How Far Has the Doctrine of Cleanliness and Public Health Permeated the Medical Profession? South. Med. Jour., 1913, vi, 783.

[2] Kennaway, E. L., Pembrey, M. A., and Poulton, E. P.: Observations on Acidosis, Jour. Physiol., 1913, xlvii, p. x.

Medical News

ALABAMA

New Officers.—Mobile County Medical Society at Mobile, January 31: president, Dr. Ruffin A. Wright; secretary, Dr. Willis W. Scales, both of Mobile.——Clarke County Medical Society at Grove Hill: president, Dr. Isham Kimbell, Jackson; county health officer, Dr. John A. Kimbrough, Thomasville.——Marshall County Medical Society: president, Dr. Phocion B. Lusk, Guntersville; secretary-treasurer, Dr. William E. Noel, Boaz.

Personal.—Dr. Charles A. Grote of the State Board of Health has been studying the work of the North Carolina State Board of Health at Raleigh, and also inspecting the methods of the local boards of health at Asheville and elsewhere.——Dr. Robert B. Hays has left Woodward and accepted a position with the Birmingham Infirmary.——Patients, former patients and friends of the Lynnhurst Sanatorium presented Dr. Ante Costa Watts, Birmingham, the medical director, with a microscopic outfit.——Dr. William M. Caffee, Birmingham, who was operated on recently for appendicitis, has recovered.——Dr. Marion T. Davidson, Wylam, was seriously burned by an explosion of chemicals in the Wylam Hospital, January 30.

ARKANSAS

Sanatorium to Open.—Drs. Malcue G. Thompson and Murray G. Thompson, Jr., Hot Springs, will open a sanatorium at Ashdown in the New Sanderson Building.

New Officers.—Pulaski County Anti-Tuberculosis Society at Little Rock, January 30: directors, Drs. Charles W. Garrison and Orange K. Judd, both of Little Rock.

Health and Vital Statistics Laws.—Until a year ago Arkansas had no state board of health. A law was enacted by the legislature at that time creating a board of health and also providing for the registration of vital and morbidity statistics through state and local registrars. This legislation is in accord with the model law approved by the Census Bureau, the American Public Health Association and the American Medical Association, and places Arkansas in line with the progressive states in respect to health legislation. In commenting on this and the active health propaganda which has characterized the last decade, the *Arkansas Democrat* says concerning the new health department: "An entirely new conception of public duty has been forced on our lawmakers in this respect, and now for the first time in the history of Arkansas, our vital resources—men, women and children—are to receive the same governmental care and protection as our soil, rivers, forests, hogs, cattle and horses. Ten years ago it would have been impossible to pass the law under which the new State Board of Health is operating, notwithstanding the fifty years of successful experience in New York, Pennsylvania and Massachusetts in public health administration. It has taken years of energetic, unselfish and unremitting effort to bring the Southern states to a commitment of the truth that the protection of the public against preventable disease is a fundamental duty of state government."

ILLINOIS

Hospital Dormitory Plans Ready.—Plans for the dormitory addition to St. Joseph's Hospital, Elgin, have been completed, and work on the building will begin early next month. The cost of the addition will be approximately $25,000.

Personal.—Dr. David Lieberthal has resigned as professor and head of the department of dermatology and syphilography of Bennett Medical College.——Dr. Samuel Amberg of the Otho S. A. Sprague Memorial Institute, Chicago, has been elected a corresponding member of the Society of Internal Medicine and Pediatrics, Vienna.——Dr. C. Max Hawley, assistant superintendent of the Watertown State Hospital, has been transferred to a similar position at the Elgin State Hospital.——Dr. Clesson C. Atherton, physician to the Lincoln schools, has been appointed assistant superintendent of the Watertown State Hospital.——Dr. Wilson K. Dyer of the staff of the Watertown State Hospital, has resigned to take up private practice.

INDIANA

Laboratory Incorporated.—The Fort Wayne Medical Laboratory has been incorporated with a capital of $5,000, by Dr. Bonelle W. Rhamy, Mary Rhamy and Robina L. Orvis.

Personal.—Dr. Quincy M. L. Williams, Folsomville, was shot and seriously wounded by his brother-in-law, February 5, as the results of a family feud.——Dr. Herman H. Kamman, Columbus, was knocked down by his motor-car, February 3, fracturing two of his ribs——Dr. John W. Cook, Pendleton, is reported to be critically ill with pneumonia.

Small-Pox in Indianapolis.—During January there were 83 cases of small pox in the city, and during February the disease has increased to such an extent that an order compelling vaccination of all schoolchildren, under penalty of exclusion from the schools, has been issued by the Health Department. It is said that the small-pox situation is costing the city $100 a day.

Trachoma in Bartholomew County Schools.—Trachoma was found to exist in twenty schools, in eight townships, one town, and one city. Forty-eight cases of well-marked trachoma were found in the 3,969 schoolchildren examined, or 1.2 per cent. Twenty cases of trachoma were found in eleven county schools and one township consolidated school. Fourteen cases were found in six Columbus schools, eleven cases were found in the East Columbus consolidated school, and three in the high school, town of Hope. In the country schools, six cases were found in one school in Wayne Township. For the above it will be noted that trachoma is most prevalent in the two townships, Columbus and Wayne. Thirty-four cases were found to exist in these two townships.

KANSAS

New Officers.—Harper County Medical Society, at Anthony, January 28: president, Dr. George S. Wilcox, Freeport; secretary, Dr. Horace L. Gallaway, Anthony.

State School in Quarantine.—The Kansas State School for the Blind, Kansas City, has been closed and quarantined by the state health officials on account of the presence of a case of small-pox.

Personal.—Dr. Uriah I. Ward, Hutchinson, fell on the sidewalk at the Masonic Home, Witchita, January 25, suffering a compound fracture of the hip.——Dr. Roscoe T. Nichols, Liberal, has been appointed student physician to the State Agricultural College, Manhattan.——Dr. T. H. McLaughlin, for the last fourteen years a medical missionary in Africa, has returned to the United States to resume practice in Topeka.

KENTUCKY

Trachoma in Louisville.—Drs. Oakley and Moore of the United States Public Health Service, who have been investigating trachoma in Kentucky, report that they have found 176 cases among 4,558 children examined in the county outside of the city. In Louisville 450 cases have been found in the schools.

Small-Pox in the Legislature.—Senator Porter, a member of the legislature is reported, under date of February 4, to have small-pox, and a conference of legislators was held with the State Board of Health for the adoption of measures to prevent its spread. It is said that a number of the members have not been vaccinated.

Personal.—The following members have been added to the staff of the St. Elizabeth's Hospital, Covington: Dr. John L. Phythian, Newport, and Drs. R. W. J. Irtel, Josiah G. Furnish, Elmore B. Backsman, Newport; Charles G. Preck, H. Clay White, O. Lyle, Reynolds, and Michael M. Behrman, Covington.——A fire in Covington, February 4, destroyed the office of Dr. Charles A. Nevitt.

Preventable Diseases.—In the biennial report of the State Board of Health, it is shown that in the thirty-three months of the operation of the vital statistics law there have been reported 169,854 births, 83,778 deaths, of which 33,866 were due to preventable diseases. For each of the deaths reported, there were twenty-six cases of illness from the same cause, 541,856 illnesses which should have been prevented.

MARYLAND

New Hospital.—Ground has been broken for the new South Baltimore Eye, Ear, Nose and Throat Hospital on Light Street, to cost $50,000 and to have about fifty beds. The hospital was started twelve years ago by Drs. Harry E. Peterman and James Boardley and much charitable work has been done since its opening.

Small-Pox in Baltimore.—An additional quarantine hospital for small-pox cases was established February 10, near Texas, Baltimore County. There were 75 well developed cases of small-pox in the county; 40 were being cared for in the City Quarantine Hospital, and an equal number of suspected cases were under observation at the Sydenham Hospital.

Must Report Sore Eyes.—An ordinance requiring physicians to report to the Health Department within twelve hours after diagnosis all cases of sore eyes among infants and children was introduced in the second branch of the Baltimore city council by Dr. George Heller. This bill was introduced that steps to lessen blindness might be taken. Epidemic meningitis and infantile paralysis were also added to the list of contagious diseases reportable to the Health Department.

Personal.—Dr. Fred Caruthers, Baltimore, formerly coroner of the Northeastern district, was operated on at the Franklin Square Hospital for tetanus resulting from blood poisoning, which occurred two days after an ulcerated tooth had been extracted. Dr. Caruthers was reported as slightly improved, but his condition is still serious.——Dr. Charles L. Mattfeldt, Catonsville, who has been a patient at St. Agnes' Hospital for the past ten days, is improving.——Dr. Harry Adler, Baltimore, slipped on a rug last week at the home of his father and broke his leg just above the ankle.—Dr. Charles Bagley, Jr., who has been associated with Dr. Harvey Cushing at the Peter Bent Brigham Hospital, Boston, Mass., has resumed practice in Baltimore.

Report of the Mental Hygiene Committee.—The Mental Hygiene Committee completed a highly successful first year on January 7. The objects of the committee are set forth under the following headings: (1) Prevention of nervous and mental breakdown by early treatment, practical advice and material assistance, when necessary. (2) After-care and reestablishment in the community of patients discharged or paroled from state hospitals. (3) Social service in cooperation with organized and private charity and the hospitals. (4) To familiarize the public with the causes and means of prevention of mental disease, feeble-mindedness, delinquency and criminality. (5) To do and effectuate everything possible to improve and elevate the standard of care for the mentally afflicted in Maryland. During the year 320 cases have been referred to the committee from the following sources: Springfield State Hospital, Spring Grove State Hospital, Rosewood State Training School, Crownsville State Hospital, Supervisors of City Charities (Bay View), Phipps Psychiatric Clinic, Sheppard and Enoch Pratt Hospital, Juvenile Court, Bureau of Statistics and Information, Magistrates Dean, Supplee and Sayler, and the Northeastern, Central and Western Police Stations, the Federated Charities, St. Vincent de Paul Society, Henry Watson Children's Aid Society, Federated Jewish Charities, Lunacy Commission, private physicians and others. All the state societies in which there is a Mental Hygiene Committee will hold a meeting in Baltimore May 25. The following states will be represented: Massachusetts, New York, Illinois, Connecticut, Pennsylvania, North Carolina and Maryland, and the National Committee for Mental Hygiene.

Recommendations for Health Service Administration.—Surgeon Carroll Fox, U. S. P. H. S., after investigations carried on for a period of six months, has made elaborate and important recommendations for the administration of the State Public Health Service. Among these recommendations were: that the state be divided into not less than ten districts, each district to be placed in the charge of a physician trained in sanitary science, assistants, nurses, inspectors and a clerk; that the duties of these district sanitarians be well defined, and include supervision of the work of all health officers, enforcement of laws, inspection and investigation of nuisances, and such other duties as may be required of him by the state; that incorporated towns, and towns not incorporated, of more than 1,000 population be required to appoint a health commissioner to assist the district health officer in the enforcement of his duties; that each town be required to put aside 2 per cent. of its available funds to be devoted to the betterment of the public health; that comprehensive laws be enacted making it compulsory that plans providing for water-supply, sewerage and refuse disposal systems be approved by the State Health Department; that special attention be given to the sanitation of public schools; that a statewide campaign be carried on against typhoid fever; that a study be carried on by the state of pellagra, trachoma, hookworm, infant morbidity and mortality, and malaria; that laws be enacted for factories, stables, hotels, restaurants, etc., and that the maintenance of the sanitation of dairies, milk-supplies, etc., be taken from the hands of the State Live Stock Sanitary Board and be placed in the hands of the State Department of Health.

MASSACHUSETTS

Personal.—Dr. Conrad Bell has succeeded Dr. C. Richard Bell as member of the Board of Health of Waltham.——Dr. John T. Reynolds has been appointed a member of the Board of Health of Quincy.——Dr. A. F. Mahoney has been elected city physician of Chelsea, vice Dr. Frank H. Chase.

Hospital Notes.—The new Children's Hospital for Tuberculosis at Mattapan was dedicated January 29.——Fire in the Lawrence General Hospital, recently, placed the lives of seventy-five or more patients in peril, but was extinguished without casualties or panic, thanks to the cool-headedness of the nurses on duty.

Prenatal Clinic.—The first prenatal clinic, which was held at the Peter Bent Brigham Hospital, Boston, under the auspices of the Milk and Babies' Hygiene Association for prospective mothers has submitted an examination to be taken by those in the care of the clinic. A nurse will visit each of these patients every ten days to be sure the instructions have been carried out; after the birth of the child, the nurses will make daily visits for ten days.

MICHIGAN

Personal.—Dr. Arthur W. Skidmore, Three Rivers, has been elected head of the city Board of Trained Nurses.——Dr. Walter A. Briegel, city health officer of Tecumseh, is ill at his home with scarlet fever.

Small-Pox in Lapeer County.—Dr. W. H. Smith, of St. Clair, after an investigation of the small-pox situation in Lapeer County, reports to the secretary of the State Board of Health that he found two hundred cases and that many of them had been concealed and not previously reported to the health authorities.

MINNESOTA

Adopts Elective System.—To a limited extent the elective system has been adopted in the medical department of the University or Minnesota, Minneapolis.

Personal.—Dr. Joseph Nicholson, physician-in-charge of the Northwestern General Hospital, Brainerd, has been asked to establish and take charge of a hospital at El Basan, Albania.——Dr. W. O. Henry Paul, Owatonna, has been appointed superintendent of the sanatorium conducted in connection with the Immanuel Hospital, Mankato.

Would Consolidate Examining Boards.—The chairman of the committee in charge of the investigation of state functions having to do with public health, safety and agriculture, has proposed to the executive committee of the state economy and efficiency commission, a plan to consolidate the various examining boards under one bureau. At the head of this bureau is to be a director, under whom will be three commissioners, one of whom will have control of the various boards of medical, dental and pharmaceutical licensure, vital statistics study and control of epidemics, bacteriologic researches, Pasteur institutes, etc.; the second will have charge of the inspection of food for hotels and institutions; and the third will be in charge of public safety, fire prevention and similar work.

MISSOURI

State Board Meeting.—The State Board of Health met in St. Louis February 9 to 12 to examine applicants for license to practice and to hear charges against several physicians.

Physicians Must Not Advertise in Newspapers.—At a meeting of the Livingston County Medical Society at Chillicothe, February 5, a resolution was adopted that the physicians withdraw their professional care from the local newspapers, and that they do not allow their names to be mentioned in newspapers in connection with accidents or other matters of professional attendance.

New Officers.—Holt County Medical Society, at Oregon, January 8: president, Dr. O. W. Nauman, Craig; secretary, Dr. Walter S. Wood, Oregon.——Saline County Medical

Society, at Marshall, January 13: president, Dr. Floyd W. Tuttle, Mt. Leonard; secretary-treasurer, Dr. George A. Aiken, Malta Bend.——Cooper County Medical Society, at Boonville, January 6: president, Dr. Porter Williams, Tipton; secretary, Dr. C. S. Roberts, Boonville.——Linn County Medical Society, at Brookfield: president, Dr. Charles E. Jenkins, Brookfield; secretary, Dr. Foster W. Burke, Laclede.——Harrison County Medical Society, at Bethany: secretary, Dr. Cushman H. Vandivert, Bethany.——Ray County Medical Society, at Richmond: president, Dr. Robert Sevier; secretary, Dr. James E. Ball, both of Richmond.——Polk County Medical Society, at Morrisville: president, Dr. R. Lee Russell, Himansville; secretary, Dr. J. F. Roberts, Bollivar (reelected).——Greene County Medical Society, at Springfield: president, Dr. George B. Lemmon; secretary, Dr. Thomas O. Klingner.——Johnson County Medical Society, at Warrensburg: president, Dr. Henry Park, Knobnoster; secretary-treasurer, Dr. Oscar B. Hall, Warrensburg.——Clinton County Medical Society, at Lathrop: president, Dr. John F. Kimsey; secretary, Dr. F. H. Fulton, Plattsburg.

St. Louis

Sanitary Bill Boards.—After eight years of legal and verbal warring the bill board companies have surrendered and will comply with the law. As constructed at present, the bill boards are a menace to property in case of fire, afford a refuge for criminals and attract insanitary and unhygienic deposits.

No Laundry Bundles in Food Shops.—Butcher shops, restaurants, groceries and other food dispensing shops will not be permitted in the future to act as agents for laundries. The Health Department has ordered the laundry companies to discontinue agencies in food shops on account of the danger of spreading diseases through handling laundry bundles in these shops. The laundry companies readily acquiesced with the order.

Sanitary Inspection.—On request of Postmaster Selph the United States Public Health Service has detailed Dr. M. J. White to examine the sanitary condition of the postoffice buildings. This is the first instance where the postoffice buildings have received sanitary inspection. The examination will be made monthly. Medical inspection of employees will probably become a routine procedure in addition to the inspection of the buildings.

Nine-Hour Day for Nurses.—The state factory inspector has notified the hospital board that women employees of the city hospitals must not work more than nine hours a day, as required by the state law. The women nurses and other women employees have been working twelve hours. The change will require the employment of approximately one-third more nurses and an increase of the hospital budget of about $8,000 annually.

MONTANA

Addition to Hospital.—The addition to St. Joseph's Hospital, Lewistown, erected at a cost of about $40,000, was opened last month.

Health Officers of State Meet.—The first annual meeting of the eastern division of the Montana Health Officers' Association was held at Billings, January 30. Dr. Mott. H. Arnold, Billings, was elected secretary of the organization.

Seek Eugenic Law.—At a meeting of the Gallatin County Medical Association at Bozeman, January 24, a campaign to obtain eugenic marriage laws for the state was begun. Copies of the Wisconsin eugenic law were discussed, and members of the state and county bar associations took up various phases of the subject.

Personal.—Dr. John M. Scanland, Helena, has been reappointed superintendent of the State Hospital for Insane, Warm Springs, vice Dr. Arthur C. Knight, Butte, resigned.——Dr. A. P. Van Kirk, who recently resigned from government service at Old Fort Belknap, has entered practice at Lamont, Wash. and has been appointed local surgeon of the Spokane, Portland and Seattle Railway.——Dr. Sanford H. McCall, Missoula, has been elected president of the Missoula County Medical Society.

NEBRASKA

Hospital Notes.—A movement has been inaugurated for the erection of a negro hospital in Omaha.——An addition is to be built this spring to the Swedish Mission Hospital, Omaha, to cost from $60,000 to $70,000.——A new building is to be erected at the State Tuberculosis Sanatorium, Kearney, this year, at a cost of $40,000. The new building will be used exclusively for hospital purposes, while the old building now in use will be occupied as offices and living rooms for the superintendent and assistants.

Personal.—Dr. George P. Shidler has resigned as city physician of York, it is reported, on account of failure to receive the support of the mayor regarding an order for compulsory vaccination in the schools. Small-pox is reported to have occurred among the pupils of a business college. An order for the vaccination of all the students was disregarded by the head of the school, and in this he was supported by the mayor.——Dr. Robert C. Knode, Gering, has been appointed local surgeon of the Union Pacific System.

New Officers.—Franklin County Medical Association at Upland, February 3: president, Dr. William F. Dugan, Campbell; secretary-treasurer, Dr. Hal C. Smith, Franklin.——Elkhorn Valley Medical Association at Fremont, January 20: president, Dr. Frank Jensen, Newman Grove; secretary, Dr. Harry L. Wells, West Point. The association will hold its July meeting at Norfolk.——Lincoln Physicians' Research Club: president, Dr. Richard H. Spradling; secretary-treasurer, Dr. F. B. Dwiggins.——Colored physicians, pharmacists and dentists of Omaha organized an association January 21. Dr. August G. Edwards was elected president, and J. Merchant, Ph.G., secretary.——York County Medical Society at York: president, Dr. Edwin B. Hanna; secretary-treasurer, Dr. Edmund G. Zimmerer, both of York.——Dawes County Medical Society at Chadron, January 14: president, Dr. Andrew V. Stephenson, Crawford; secretary-treasurer, Dr. George W. Deemer, Chadron.

NEW YORK

New Officers.—Fulton Academy of Medicine, February 5: president, Dr. Herman W. Schlappi; secretary-treasurer, Dr. Everett A. Gladman.

Impostor Sought.—Health Commissioner Francis E. Fronczac, Buffalo, reports that a woman has been making a house-to-house canvas of the city, representing herself as being connected with the health department, and attempting to sell a medical book.

Personal.—Dr. Henry L. K. Shaw, Albany, has been appointed director of the department of child hygiene of the State Department of Health.——Dr. William Behan has been elected superintendent of the Mountain Sanitarium of the County of Broome.

Demand for Rural Hygiene.—The members of the New York State Grange at a recent convention, when told that the death-rate in the state in cities and towns below 8,000 was 15.4 per thousand, as against 13.7 in the larger cities, demanded a division of rural hygiene in the organization of the State Board of Health.

Matteawan Overcrowded.—At present there are 850 inmates in the State Hospital for the Criminal Insane, Matteawan, more than ever before at any one time. The superintendent states that this overcrowding is largely due to the fact that New York County has been dumping insane criminals into his institution, and he says that he will refuse to accept any more of these insane criminals from New York County.

New York City

Annex for St. Mark's Hospital.—At a dinner recently given to Benjamin T. Tilton, chief surgeon of St. Mark's Hospital, it was announced that a $150,000 annex was to be added to the hospital.

Honor State Health Commissioner.—Dr. Hermann M. Biggs, State Commissioner of Health, was the guest of two hundred physicians at a dinner at the Biltmore, February 7, at which Dr. George David Stewart presided as toastmaster.

Harvey Society Lecture.—The next lecture in the present course of Harvey Society lectures will be given February 28. Prof. Richard P. Strong, Harvard University, will lecture on "The Etiology of Oroya Fever and Verruga Peruviana."

Women as Hospital Interns.—The Commissioner of Charities has under consideration the question of appointing women as interns at the Metropolitan Hospital. At present these positions are open to men only, but it is felt that as a year's hospital training is soon to be required of every graduate in medicine before a license to practice medicine is issued, that this opportunity for training should be open to women now entering the profession.

Hospital Annex Dedicated.—The new hospital in connection with the work of the Hebrew Infant Asylum at Kingsbridge Road and University Avenue, the Bronx, was dedicated February 8, at the nineteenth annual meeting of the asylum.

The building cost $25,000 and here each infant will be kept in a single room for three weeks under careful observation until the physicians decide that the child is at least free from the evidences of disease and may safely be transferred to the wards.

To Facilitate Early Diagnosis of Diphtheria.—Despite the fact that there are a number of collecting stations in the city where throat culture for the diagnosis of diphtheria may be left, and that these specimens are collected every evening and reported on by telephone before 10 o'clock the following morning, the Department of Health feels that time might be gained, and has under consideration a plan for the installation of incubators at some of the collecting stations, particularly those that are open all night.

Operations on Adenoids and Tonsils.—The Public Health Hospital Budget Committee of the New York Academy of Medicine has adopted resolutions recommending that all operations on tonsils should be performed in a hospital or in such dispensaries as have operating rooms and recovery wards; that private hospitals of the city be requested to cooperate with the health department in the care of children with enlarged tonsils; that the hospitals be provided with adequate facilities for such cases; that the city compensate private hospitals for such service, and that the public hospitals be requested to undertake such cases without compensation.

Health Department Warns Against "Cure-Alls."—Dr. Sigismund S. Goldwater, the new health commissioner, has issued a bulletin cautioning the public against putting too much faith in radium as a cure for cancer. The warning was issued for the purpose of protecting the public against fakers who may trade on the public's credulity. At the same time Dr. Goldwater said that the Board of Health had refused the request of Dr. Hans Karfunkel, a Berlin physician, who has asked permission to try a modified Friedmann tuberculosis serum in this city. The present board of health stands by the former board which adopted the resolution that no serum containing living bacilli should be employed in the treatment of tuberculosis patients without the board's permission.

Central Council of Public Health.—At the meeting of the Public Health Federation of the City of New York, Dr. John H. Huddleston officiated as chairman and was elected head of the Central Council of Public Health. The general aims of the Council were set forth as follows: To provide for conferences of private health organizations. To act as a clearing house for the exchange of ideas and information in reference to the public health of the city. To coordinate and prevent duplication of the various public health activities of the city. To promote cooperation in the investigation and study of health problems. To study the city budget in its relation to public health. To take an active interest in the administration of all such branches of the city government as have a direct bearing on public health.

Lack of Efficiency Charged in Dealing with Typhoid.—The Bureau of Municipal Research which has completed an investigation of the methods employed in handling the typhoid fever epidemics in this city in 1911 when there were 1,133 cases, and in 1913 when there were 948 cases, charges that there was lack of efficiency in dealing with these epidemics. It is stated that the experience of 1911 left no excuse for failure to handle the situation in 1913. The report points out twenty-eight defects in the method employed in 1913. Some of these defects were delay in reporting cases and lack of effort to secure the cooperation of other city departments in improving the notification of typhoid fever cases. Inspection and action on inspection was too long delayed; inspector's reports were inaccurate and incomplete and lacked in uniformity; cases had not been taken seriously enough when only 20 or 30 per week were reported, and typhoid vaccine had not been explained to the public. It is claimed that had telephones been used, and had inspection and action on it been prompt, many cases of typhoid would have been prevented. The belief was expressed that at a conservative estimate $100,000 a year should easily have been saved in wage loss and doctor's and funeral bills due to preventable typhoid.

NORTH CAROLINA

Summer Camp Site.—The War Department has purchased a large tract of land, east of Asheville, where it will establish a summer camp for state troops and the national guards of various adjacent states.

To Erect and Endow Hospital.—Dr. John W. Long, Greensboro, has provided a fund to be placed in the hands of the Foreign Mission Board of the Methodist Episcopal Church in South Africa, to erect and maintain a hospital for the treatment of special diseases incident to South Africa, at some advantageous point in that country. The hospital is a memorial to his daughter, Miss Mary Long.

Personal.—Dr. Francis J. Clemenger, Asheville, sailed for London, January 31.——Dr. W. Herbert Wootten, Davidson, was shot by a druggist, February 9, while making a professional call at the home of the latter.——The officers of Drs. Charles L. Summers, Roscoe L. Wall, Albert D. Edwards, Van McK. Long, and Dr. Wingate M. Johnson, Winston-Salem, were destroyed by fire in the O'Hanlon Building.

Hookworm Education.—The report of Dr. C. L. Pridgeon, assistant secretary of the State Board of Health for the Eradication of Hookworm Disease, for the year 1913 shows the interesting fact that of the one hundred counties of the state, ninety-nine have made supplementary appropriations to aid in the work being done by the Rockefeller Foundation and the State Board of Health. Several of the counties which were surveyed two years ago have made appropriations for a second canvass. Prior to 1913 there were 217,033 people examined in the state for hookworm, and 88,119 were found infected and treated, or 40 per cent. During 1913, 107,887 people were examined, and 23,533 were found infected, or 21.8 per cent., showing the value of the previous educational work. In addition, the work of private physicians, as reported to the State Board of Health regarding hookworm, shows that prior to 1913 they had treated 40,568, and in 1913 they treated 11,905 cases, making a total treated by private practitioners of 52,473 cases, which, added to the above, shows that North Carolina in the past few years, as shown by the records in the State Board of Health office, there have been treated for hookworm, 164,145 patients. In addition to making examinations of one-seventh of the state's population, the hookworm staff of the state board have distributed nearly one million pieces of literature relating to hookworm, sanitation and kindred topics, besides delivering 1,089 public lectures, listened to by upward of 100,000 citizens. This does not include the hundreds of other daily lectures given during the period mentioned by the field demonstrators in making the clinical examinations. The work for 1914 will be prosecuted with increased vigor.

NORTH DAKOTA

Small-Pox Near Canadian Line.—Small-pox in several of the northern counties of the state, although looked after carefully by the State Board of Health, with proper quarantine, the enforcement of vaccination, etc., has induced the Canadian authorities to quarantine against St. John, near the northern border. The Great Northern railroad has been restrained from selling tickets for points north, and train crews have been compelled to change at Rolla instead of at St. John. The disease is well under control and the boundary quarantine will soon be raised.

PENNSYLVANIA

Personal.—Dr. Edwin A. Curry, Danville, suffered a cerebral hemorrhage several weeks ago.——Dr. Watson Marshall has been appointed demonstrator of laryngology in the University of Pittsburgh.

Biologic Research Society Holds Open Meeting.—The Society for Biological Research of the University of Pittsburgh held its first open meeting January 29, when Dr. Ross G. Harrison, of Yale University, delivered an address on "The Life of Tissues Outside the Organism."

New Dispensary.—A free medical dispensary has been installed in the rooms of the New Convent Mission, at Reed, Crawford and Pride Streets, Pittsburgh. Dr. Frederick V. H. Wooldridge is physician in charge, and Dr. Alexander M. Stevenson is in charge of the nose and throat department.

Norristown to Limit Admission of Patients.—The trustees of the Norristown State Hospital for the Insane have adopted resolutions so that all the counties of the southeastern district may be entitled to a "ratable and equitable privilege." The maximum limit of patients to be received will be 1,500 in the male department and 1,550 in the female department. With every commitment must be presented a certificate signed by the chief resident physician of the respective department and by a member of the board of trustees from the county whence the patient is sent, and of another member of the board of trustees from some other county, approving that application or the admission of the patient to the hospital, otherwise the officers of the institution are instructed to refuse to admit the patients.

Winter Cholera at Grove City.—It is reported that 50 per cent. of the 4,000 people in Grove City have been affected with a disease spoken of as "winter cholera." Business and industrial plants have suffered on account of illness among their employees, but no deaths have occurred. The disease is under investigation by the state health commissioner and his assistants, who reported, February 8, that it had succeeded in checking the outbreak of cholera at Grove City. The engineer sent to that town found the trouble due to the fact that air pressure was used in forcing water out of the wells, from which the municipality derived its water supply. The water was treated with copperas, on February 7. The report of the day before showed that 110 new cases developed. February 7 there were 57 new cases, and February 8, only 12.

Philadelphia

Hospital Site Purchased.—Archbishop Prendergast has acquired a tract of land of 11 acres in West Philadelphia, on which it is proposed to establish a large hospital. The site is valued at $200,000.

Weir Mitchell Lecture.—The Weir Mitchell Lecture will be delivered February 5, at 8:30, by Dr. Harvey Cushing of Harvard University, on "Clinical Types of Dyspituitarism," at the College of Physicians and Surgeons, Twenty-Second and Chestnut Streets.

Hospital's Income Increased.—On February 11, Judge Staake granted a petition to permit the Jeanes Hospital, the benefaction of the late Annie T. Jeanes, to receive a quarter of a million dollars annually as an income, and also granted permission for a property value of five million dollars, to be held by that institution.

Child Federation's Campaign.—A meeting was held at the Pennsylvania Hospital, February 10, of the Pennsylvania Association of Hospital Social Workers, and plans for increasing the efficiency of these workers connected with certain city hospitals were discussed. The following officers were elected for the ensuing year: president, Mrs. Blanche Jobes, Orthopedic Hospital; vice-president, Miss Mary E. Pollock, Jefferson Hospital; and secretary and treasurer, Miss Agnes Jacobs, Henry Phipps Institute.

Clergymen Join Housing Crusade.—After an inspection of the courts and alleys running back of South, Lombard, Bainbridge, Carpenter, Marshall and Fitzwater Streets, conducted by Bernard J. Newman, secretary of the Philadelphia Housing Commission, the ten ministers of various denominations, pledged their cooperation in the work of the commission, which desires that a comprehensive survey be made; that landlords and lessees be forced to purge the properties of uncleanliness and that stricter provisions be made for observation of the law.

VIRGINIA

Plead for Tax Exemption.—A committee of physicians appeared before the House Committee on Finance to ask that the statute requiring a license tax from physicians be repealed. The committee states that physicians are now taxed from $10 to $25 for licenses, the aggregate amounting to $44,000 a year, and that only four other states of the Union, North Carolina, Delaware, Louisiana, and Georgia, require the tax.

Health Specialists to Meet.—For the first time in its history the Virginia Public Health Association is to hold its meeting separately from the Medical Society of Virginia. The meeting will be held at Charlottesville, April 23 and 24, under the presidency of Dr. Moseby G. Perrow, Lynchburg. Addresses will be delivered by Dr. Harvey W. Wiley, Dr. Carl Alsberg, Dr. William C. Woodward, Washington, D. C., and Dr. Ennion G. Williams, Richmond State Health Commission.

Personal.—Dr. Albert P. Traynham, Richmond, has been appointed district hookworm inspector by the Rockefeller Sanitary Commission, to succeed Dr. Knex E. Miller, who has resigned to enter the U. S. P. H. S.——Dr. J. Thomson Booth, Ashland, has been appointed district hookworm inspector, vice Dr. G. L. Koelmer, who has resigned to enter practice in Salem.——Dr. Hugh M. Taylor, Richmond, who was operated on in a hospital in Philadelphia for tic douloureux, is reported to be making good progress toward recovery.——Dr. Ernest C. Levy, chief health officer of Richmond, Ramon D. Garcin, and M. D. Hoge, Jr., have been appointed a committee to prepare the exhibit of the Richmond Board of Health in the Chamber of Commerce Building.

WISCONSIN

Tuberculosis Notes.—The forty-five inmates of the Blue Mound Sanatorium, Wauwautosa, were imperiled, February 10, by a fire which destroyed the institution, with a loss of $50,000. Fortunately no casualties occurred.——The State Board of Control has accepted recommendations for a tuberculosis camp on Tomahawk Lake.——Eau Claire County has a well-kept sanatorium, erected by the Eau Claire Anti-Tuberculosis Society. The institution is situated on the southern slope of Mt. Washington, west of the city, and accommodates twenty patients.

Personal.—Dr. and Mrs. Richard C. Buchanan, Green Bay, and Dr. and Mrs. James B. Lenfestey, De Pere, sailed for Europe, February 12.——Dr. Fay T. Clark, Waupun, has been appointed a member of the Wisconsin State Board of Medical Examiners, vice Dr. Milton, resigned.——Dr. M. J. White, assistant surgeon at the Soldiers' Home, Milwaukee, has resigned, and will take his former place on the medical staff of the Milwaukee County Hospital for the Insane, Wauwatosa.——Dr. Frank S. Wasielewski has been elected president, and Dr. Rudolf F. Teschan, secretary, of the board of trustees of the Johnston Emergency Hospital, Milwaukee. Dr. William F. Becker has been elected president and Dr. Oscar Lots, secretary, of the staff of the hospital.

GENERAL

Annual Meeting of the Federation of State Boards.—The annual meeting of the federation will be held at the Congress Hotel, Chicago, Wednesday, February 25, the day following the conference of the Council on Medical Education. The program includes, among others, the following addresses: "Uniform Curriculum for Medical Schools," by Dr. John L. Heffron, Dean of the College of Medicine of Syracuse University; "The United States Medical Services and Medical Education," by Lieut.-Col. J. R. Kean, Medical Corps, United States Army; "Standardizing Medical Education," by Dr. Harold C. Ernst, Professor of Bacteriology, Harvard University Medical School, Boston; "Instruction in Pharmacology and Therapeutics," by Dr. Samuel W. Lambert, Dean of Columbia University College of Physicians and Surgeons, New York City; Dr. Walter L. Bierring, President of the Iowa State Board of Health and Medical Examiners, Des Moines; Dr. Bernard Fantus, professor of pharmacology and therapeutics of the University of Illinois College of Medicine, Chicago. Other papers by prominent speakers will be given on medical practice acts, preliminary credentials, practical examinations and reciprocity.

Life Insurance Directors to Meet.—The fourth mid year meeting of the medical section of the American Life Convention will be held at French Lick, Ind., March 4 to 6, under the chairmanship of Dr. James H. Stowell, Chicago. The preliminary program, which has just appeared, shows an unusually interesting list of subjects for addresses and discussions.

Bequests and Donations.—The following bequests and donations have recently been announced:

Providence Hospital, St. Louis, $5,000 from the estate of Adolphus Busch.

Samaritan Hospital for the Aged, Society for the Relief of the Destitute Blind; New York Post-Graduate Medical College, each $1,000 by the will of Emily Chamberlain.

St. Vincent's Hospital, New York City, $3,000, by the will of Louisa Verret.

Vanderbilt Clinic, New York City, $2,700 donation by John A. Fordyce.

To build a hospital for the treatment of tuberculosis at Pendra Road, India, a donation of $5,000 by Mr. and Mrs. Durant Jones, Perry, Iowa.

Hospital Work of the Gould Alliance.—The annual report of the hospital service managers of the Missouri Pacific-Iron Mountain System shows an increase in the net surplus for the year of $12,163, of which $5,000 has been set aside for an emergency hospital at Argenta, Ark. During the year the Red Cross hospital car made an instruction tour of the entire system, giving lectures and demonstrations to the employees of the system. The hospital property of the system was turned over to the employees a year ago, and since that time additional hospital facilities have been secured at Busch and Illmo, Ill.; Nevada, Mo.; Concordia and Yates, La.; and Fort Smith and Newport, Ark.

FOREIGN

Discovery of Radium in the Caucasus.—Consul Snodgrass of Moscow reports that during geological investigations in the Caucasus recently radium and mesothorium have been discovered at the mineral springs near Sotobi and Sukhum

International Congress on Thalassotherapy.—This congress will convene at Cannes, on the Riviera, April 15, and will discuss all manner of subjects connected with the seashore, sunlight, sea-bathing, etc., as means of therapeusis. The main topic for discussion will be "Marine Heliotherapy," and a number of addresses are to made by leading authorities on the biologic aspect, dosage and therapeutic effects in various affections, especially pulmonary and surgical tuberculosis. The fee of $4 entitles one to the reports and transactions when published later. The treasurer is Dr. Gimbert, Villa des Myrtes, Cannes, France. The secretary is Dr. G. Baudouin, 21 Rue du Mont-Thabor, Paris, France.

Small-Pox in New Zealand.—A report from New Zealand under date of Jan. 7, 1914, describes an epidemic of small-pox in that country which affected two thousand people, chiefly Maori natives, who are very susceptible to the disease and who are not vaccinated. An epidemic prevailed at the same time in Australia, with 900 cases, but no deaths. The disease in the Maoris for the most part was mild. Many confluent cases were found though the percentage of deaths was small. On account of the character of these people and their wandering life accurate statistics could not be obtained. The disease was traced, it is said, to a case in a man from Utah, U. S. A., who had a pustular disease of a mild type while on the steamer going over.—(*Pub. Health Rep.*, Feb. 13, 1914.)

CANADA

Personals.—Dr. Edward A. Braithwaite, Edmonton, Alta., has been appointed to the Medical Council of Canada, in place of Dr. George A. Kennedy, Macleod, Alta., deceased.——Dr. Francis J. Shepherd, Montreal, has gone on a trip to Panama.——Dr. de Lotbiniere Howard, Montreal, is leaving for England and the Continent to spend the spring and summer in graduate work.——Dr. A. G. Morpy, Montreal, has sailed for the Mediterranean.

University News.—Sir William Macdonald, Montreal, has been elected chancellor of McGill University, in succession to the late Lord Strathcona. The new chancellor's donations to McGill total over $5,000,000, his special gift being the entire physics building completely furnished.——Dr. Mines, who has been loaned to the University of Toronto by the University of London, England, is doing special work in connection with physiological studies in the medical department.

New Officers.—Kent County (Ont.) Health Officers' Association: Dr. Charles H. Charteris, Chatham, president; Dr. Frederick L. Reid, Merlin, secretary.——Medical Association of the Counties of Stormont, Dundas, Glengarry, Prescott, and Russell, Ont., at Cornwall, February 12: President, Dr. Robert R. Reddick, Winchester; secretary-treasurer, Dr. William E. Crain, Crysler. The executive committee was instructed to frame a new tariff of fees for submission to the next meeting in Ottawa early in March.——Aesculapian Club, Toronto: President, Dr. Bruce L. Riordan; secretary, Dr. George Elliott, renominated.

Hospital News.—The Toronto Hebrew Hospital Association has been recently formed and collections are being made and donations solicited for a new Jewish hospital in Toronto.——The Coburg (Ontario) Hospital has received a check for $20,000 from the estate of a prominent citizen of Port Hope, Ont.——Mr. John C. Eaton, Toronto, has presented a modern motor ambulance to the Toronto General Hospital.——Strathroy, Ont., opened a fine new hospital February 9.——The Hamilton Health Association is asking the board of control to erect a new infirmary at a cost of $75,000.——Kamloops, B. C., is to grant $15,000 for a Royal Inland Hospital.——The King George Hospital for Infectious Diseases has been completed at Winnipeg, Man., at a cost of over $300,000.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 31, 1914.

Memorials to Lord Lister

In the presence of a distinguished company which included Dr. Herringham, chancellor of the University of London, Sir Rickman Godlee, president of the Royal College of Surgeons and nephew of Lord Lister, Mr. and Mrs. J. J. Lister and Sir David Ferrier, Lord Rayleigh unveiled a mural tablet in the central hall of King's College which bore the following inscription: "In affectionate and respectful memory of Joseph Baron Lister, F.R.C.S., O.M., Professor of Clinical Surgery in King's College from 1877-1892, and for many years consulting surgeon to the King's College Hospital, member of the Council, and Life Governor of the College, this tablet is erected. His name will be handed down to posterity as the founder of antiseptic surgery, one of the greatest discoveries in history, and a source of inestimable benefit to mankind." Addressing the assembly, Lord Rayleigh said that Lister was one of the great men of his generation. One hardly knew whether to be more impressed by the importance of his achievements or by the modesty with which he seemed to regard them. If any man could properly be satisfied with his life's work it was Lister; but he did not seem satisfied. At a dinner given to celebrate the institution of the Order of Merit (an order instituted by the late King Edward for eminence in science and literature), Lister spoke of his work wtih a touch of melancholy as having been done a long while ago and as if he had hoped to do yet more.

At Edinburgh, where Lister did so much of the work of initiating the antiseptic system, arrangements have been nearly completed for the establishment of a memorial to be known as the Lister Institute. It will be devoted mainly to research in bacteriology and pathology. The work will be performed in connection with the university, but the institute will be managed by an independent board consisting of representatives of the Royal Colleges of Physicians and Surgeons, the University and probably the Carnegie trustees. Certain facilities for teaching will also be provided.

Life in an Igloo

At the Royal Society of Medicine, Surgeon G. M. Levick, R.N., lectured to a crowded audience on "The Experiences of Captain Scott's Northern Party from a Medical Point of View." He described how he and five comrades spent a winter in an ice-cave, or igloo, of their own digging, on the shores of Robinson's Bay, the ship which was to have taken them north having become frozen in. The party hit on the idea of burrowing below ground because, with a perpetual hurricane blowing, life above ground was intolerable. The cave undoubtedly saved their lives. It was hewn out of the clear blue ice and took a long time to make, but it was an adequate protection and less uncomfortable and unhealthy than might be supposed. The members of the party had only six weeks' provisions and realized that they should have to live on seal-meat during the greater part of the seven months in front of them. They were lucky in getting a number of seals, which are scarce during the winter, and also about ninety old penguins, which were molting, and had consequently delayed their migration. The penguins had not an ounce of fat on them, but they afforded a pleasant variety of diet. The party lived exclusively on seal-meat for a while, until they managed to get used to blubber. The blubber helped them to forget their great craving for sugary foods, but every now and then they revolted against it and could not touch it. They had great difficulty in cutting the seal-meat, as it was as hard as iron. They broke one of their axes on it and eventually had to fall back on a geologist's chisel and hammer. They used an old biscuit-tin as a stove and dripped blubber into it. It took the cook the whole day to prepare the evening meal. They scarcely dared to go out at all; every time they did go out they got frost-bitten. Ventilation troubled them a good deal until they drilled a chimney. One morning, after a blizzard, they found that none of their lamps would burn. They tried to light a "Primus" stove, and then a match, but these went out immediately. Apparently there was almost no oxygen left in the air. As soon as they dug a hole through the drifted snow the lamps flamed up. The curious thing was that the members of the party experienced no discomfort. In a warmer climate they would probably have died. Another remarkable fact was that none of them suffered from scurvy. The fact that they were all comparatively fit at the end of their imprisonment was a wonderful testimony of the value of a flesh diet. Their first meal after their escape was simply enormous. They ate fourteen biscuits and 2 pounds of pemmican and oatmeal each, besides lard, butter and chocolates. One of the party could not lift his legs to get into bed. Yet none of the members of the party had indigestion.

The Census of the Insane

The eleventh volume of the census of England and Wales for 1911, which deals with infirmities, has just been issued. The total number of the insane in the country is 161,993; 76,243 males and 85,750 females, representing a proportion of 4,491 per million. This is a considerable increase over the census of 1901, when the proportion was 4,078 per million, but the increase in the number of insane is no proof of the growth of insanity in the community. There is really not sufficient evidence for a correct judgment to be formed. The care to segregate persons suffering from milder forms of insanity is probably the reason for the apparently excessive increase in the numbers during the last forty years. Of the 161,993 persons who were returned as suffering from mental infirmity, 106,660 were returned as lunatic, 25,405 as imbecile, and 29,928 as feeble-minded. In 1901, 83,772 were returned as lunatic, and 48,882 as imbecile or feeble-minded. Thus there is an increase of 22.1 per cent. in the insane taken as a whole, of 27.3 per cent. in the lunatic, and of 13.2 per cent. in the imbecile or feeble-minded. The largest percentage increase in the insanity-rate occurs in the case of children under 15. The total increase is 30.8 per cent., the rate for lunatics being 42.3, and the rate for imbeciles or feeble-minded being 30.3.

The Census of the Deaf and Blind

The volume of the census of England and Wales of 1911 which deals with infirmities has just been issued. For the first time an attempt has been made to obtain information regarding the deaf other than deaf mutes. In view of the worthlessness of returns of the partially deaf, it was decided to reduce the inquiry to its lowest terms and to ask only whether there was total deafness. A similar difficulty in regard to blindness was dealt with in the same way. In the case of the blind it is probable that a number of persons who possess some degree of sight have been returned as totally blind. The reason for this is that a defect of vision which forbids the ordinary means of earning a livelihood has been considered as important as total blindness. The numbers returned totally blind were 26,336, of whom 13,257 were males and 13,079 females—that is, one person out of every 1.370 is blind, one out of 1,316 males and one out of 1,424 females. These numbers compare favorably with the last census, taken in 1901, when there were 25.317 blind people, or one out of 1,285. There has, indeed, been a steady improvement at each census since 1851, when one person out of every 979 was returned as blind. The totally deaf number 26.649, of whom 10,640 are males and 16,009 females. In addition there are 13,427 who also are dumb, and 1,695 who are stated to be dumb but not stated to be deaf. Of the two latter groups 8.167 are males and 6,955 females. The greatest proportion of the deaf and dumb, both male and female, are aged from 55 to 65 years. The proportion for all ages is lower than at any census since 1851, and the improvement, as might be expected from the trend of modern educational methods, is much more marked in early than in later life. The largest number of deaf and dumb males are employed as boot and shoe makers, the smallest as bricklayers' laborers. Of the females, dressmakers form the greatest proportion.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 31, 1914.

Personal

The well-known pediatrician, Prof. A. Baginsky, has been chosen an honorary member of the Verein für innere Medizin und Kinderheilkunde.

January 30, Professor Neumann of Königsberg, the distinguished pathologic anatomist, celebrated his eightieth birthday.

January 27, Professor Grabower of Berlin, known particularly on account of his work on the innervation of the larynx, died at the age of 64.

Privy Councillor Volmer, for many years the director of the department of internal medicine of the Catholic hospital in Berlin, died January 29.

Kaiser Wilhelm Institute for the Physiology of Work

The erection of an institute originated by Professor Rubner of Berlin, to be devoted to the physiology of work, has been begun under the auspices of the Kaiser Wilhelm Society for the Advancement of Science. The building will be placed next to the University Institute for Physiology on Invaliden-Platz. Professor Rubner has been appointed director of the institution. He will have three assistants, one for physiologic chemistry and metabolic work, one for experimental physiology and psychology, and one for statistical and economic studies.

The purpose of the institution is to obtain exact data regarding human effort of a physical and intellectual nature, both in general and with reference to the special conditions in childhood, youth and old age, and in various constitutions and races. Studies are to be inaugurated to determine the influence of the air temperature, radiant heat, and the moisture and the movement of the air on work. With reference to nutrition, a study will be made of the distribution of vegetable and animal diets, and the peculiarities of nutrition in various districts of the country, the relations of diet in the country and the city, the nutrition of families with few and those with many children. The investigation of the hygiene of the trades will constitute an important aim and it is hoped in this way to lay the foundation for an extension of the principles underlying prophylactic measures against the various influences unfavorable to health.

From this outline it may be seen how high an aim the new institution is to achieve. The extensive experience of the director, Professor Rubner, justifies the expectation that in a short time a series of important facts will be discovered in the institute.

Rise of Life Expectancy in Prussia

Official statistics recently published indicate that the average length of life in Prussia is steadily rising. This satisfactory condition must be regarded as the result of improvement in living conditions of the population, the extraordinary advance in sanitation, the care of the drinking water, attention to drainage, and finally, improvements in the treatment of the sick. While the average life expectancy of infants in the period from 1867 to 1876 was 33.05 years for boys and 35.74 for girls, it had risen for the period from 1906 to 1910 to 46.42 and 50.03, respectively. At the twentieth year of life, the increase in the average length of life is 5.18 and 5.75 years, respectively, while at fifty it is 2.33 and 2.59.

German Roman Catholic Bishops on Sex Education

The question whether children shall be instructed in sex hygiene, forms a matter of dispute between those who see in such instruction an occasion of injury to the morals of the young and those who hold it very important to impart biologic facts, even to children of school age. The problem is of interest to physicians, inasmuch as the latter party demand that the explanation of these matters to children shall be made a part of the duties of the school physician. Hence it is of interest to learn the conclusions which the Roman Catholic bishops of Germany reached on this subject at their conference held in 1913. The assumption that in accordance with the pronounced conservative tendency, these clergymen would be opposed to any form of instruction in sexual matters is not justified by their resolutions. The resolutions are as follows:

In general, the instruction of youth in sexual matters should be treated with the greatest caution and reserve. In individual cases, where it is necessary, it is the function of the parents, the religious teacher, the father confessor, or the teacher. Sexual instruction in common by lectures to groups of pupils or graduates is to be condemned. The young should be trained early in modesty and if there is need of instruction in sex matters after leaving school, it should be imparted to girls by the mother, to boys by the mother or the father, or in both cases by the father confessor with the greatest caution, teaching and warning in private. Gymnastic institutions or exhibitions for boys and girls together should never be approved. Also all public exhibitions or gymnastics for girls or women, and still more, public swimming matches and the swimming of boys and girls together should be emphatically condemned. Physical exercise for girls in a manner suited to the capacity of the female body and to the tender feeling of childhood and youth is not to be condemned. But to determine the extent of this (and in individual cases, the limited admission of spectators) is the business of the educator with religious sensibility and not exclusively of a technical expert. It would be much to be regretted if the attention to physical exercise on the part of the female sex should be carried to such an extent as to lead to inattention to the heart life, an underestimate of the spiritual and emotional training, a weakening of womanly modesty and lessening of the love for quiet domestic activities. It is a matter of most serious complaint that feminine dress both for children and adults in wide circles at the present time has become shameless, and the conference would gladly hail a determination on the part of the Catholic Women's League to wage a bold, decided and persevering warfare along the whole line against that disgraceful perversity. It would be much to be deplored if parents should be so short-sighted as to disregard this earnest appeal from their religious leaders.

From a medical standpoint, one will be able to agree with some important points in these resolutions, although not with all.

Deaths

Roswell Park, M.D., eminent as a surgeon, scientist and teacher, died suddenly at his home in Buffalo, February 15, from heart disease, from which he had suffered for several months.

He was born in Pomfret, Conn., May 4, 1852, the son of Rev. Roswell and Mary Brewster Baldwin Park. He was graduated from Racine (Wis.) College with the degree of A.B. in 1872, receiving his A.M. degree three years later. His medical course was taken at Northwestern University Medical School, from which he graduated in the class of 1876.

He began his work as a teacher in the year after his graduation, when he was made demonstrator of anatomy in the Women's Medical College of Chicago. After two years he became adjunct professor of anatomy in his alma mater, resigning this position in 1882 to become a lecturer on surgery in Rush Medical College. A year later he was appointed professor of surgery in the medical department of the University of Buffalo, and held this position until the time of his death.

He was a prolific contributor to the literature of surgery and pathology. He was the author of a Text-Book of American Surgery, published in 1896, of an Epitome of the History of Medicine, which appeared a year later, and of the Principles and Practice of Modern Surgery, which was brought out in 1907. In 1891, he delivered the Mütter Lectures on Surgical Pathology.

Dr. Park served his state as major and surgeon of the Fourth Brigade, N. G., S. N. Y. He was consulting surgeon at Fort Porter, Buffalo, under special contract with the Surgeon-General of the Army in 1899, and was one of the first to be commissioned as a first lieutenant, Medical Reserve Corps, U. S. Army, on the formation of the corps in 1907.

Dr. Park was deservedly the recipient of many honors. Lake Forest University conferred on him the honorary degree of M.D. in 1892; Harvard University, that of A.M., in 1895; and Yale University, that of LL.D., in 1902. He was appointed director of the New York State Cancer Laboratory in 1901. Of late years he had taken a great interest in the research work regarding cancer, and his opinion was regarded as authoritative. He was an anatomist of unusual erudition; a pathologist of the highest rank; a surgeon of great clinical skill and rare judgment; a teacher who possessed the somewhat rare faculty of making his students remember what he taught them. While a man of pronounced opinions, he was greatly beloved by his fellow practitioners, to whom he endeared himself by unfailing courtesy, and by giving without stint of his stores of knowledge.

Roswell Park, 1852-1914

Nathan S. Marshall, M.D. Jefferson Medical College, 1858; formerly of Illinois and secretary of the Centennial Medical Society, Olney, Ill.; one of the survivors of Commodore Peary's expedition to Japan in 1852; died at the home of his daughter in Knoxville, Tenn., February 7, aged 81.

Henry Laird Todd, M.D. University of Maryland, Baltimore, 1851; county commissioner of Wicomico County in 1867, and county treasurer in 1901; died at his home in Salisbury, January 23, from acute gastritis, aged 83.

Margaret A. Osborn (license, Indiana, 1897); for fifty-three years a practitioner of medicine of South Bend; died at her home, January 29, aged 86.

George Lloyd Magruder, M.D. Georgetown University, Washington, D. C., 1870; emeritus professor of materia medica and therapeutics and formerly dean of the faculty of his alma mater; a Fellow of the American Medical Association; one of the originators of the Central Dispensary and Emergency Hospital, Washington; a member of the consulting board of Providence Hospital, and of the board of directors of the Government Hospital for the Insane; prominently identified with the campaign for pasteurized milk in Washington, and other civic improvements; died at his home, January 28, from heart disease, aged 65.

Edward Payson Fowler, M.D. New York Medical College, New York City, 1855; a Fellow of the American Medical Association and New York Academy of Medicine; formerly president of the New York Medico-Chirurgical Society; author of several books on neurologic subjects; at one time visiting physician at Ward's Island; died at his home in Pelham Manor, January 29, from pneumonia, aged 79.

Warren S. Williams, M.D. Western Reserve University, Cleveland, Ohio, 1884; a Fellow of the American Medical Association, and the third of his family in direct line to practice medicine in Kendallville, Ind.; died at his home, January 25, aged 52.

William Wistar Wilson, M.D. Medical College of the State of South Carolina, Charleston, 1879; a member of the South Carolina Medical Association; died at his home in Williamston, January 29, aged 63.

John H. Wood, M.D. Tulane University, New Orleans, 1891; formerly a Fellow of the American Medical Association; died at his home in Hubbard, Texas, January 21, from cerebral hemorrhage, aged 47.

Charles E. Froelich, M.D. University of Copenhagen, Denmark, 1870; a member of the Connecticut State Medical Society; died at his home in Hartford, January 31, from acute gastritis, aged 68.

William Pearson, M.D. Vanderbilt University, Nashville, Tenn., 1888; of Joshua, Texas; died in a sanitarium in Fort Worth, Texas, January 28, from cerebral hemorrhage, aged 56.

William Clark Brittain, M.D. Eclectic Medical Institute, Cincinnati, 1873; a Fellow of the American Medical Association; died at his home in Cochranton, Pa., January 30; aged 64.

Caroline Helen Van Horne, M.D. Women's Medical College of Pennsylvania, Philadelphia, 1894; a member of the medical staff of the Englewood (N. J.) Hospital, and physician to the Day Nursery; a member of the Medical Society of the State of Pennsylvania; died at her home in Englewood, February 3, from heart disease, aged 51.

George Fleet Dudley, M.D. Washington University, St. Louis, 1863; one of the founders and first president of the St. Louis Medical Society, and first health commissioner of St. Louis; for two terms coroner of St. Louis County; a surgeon in the Confederate service during the Civil War; died at his home February 2, aged 79.

Ray Vaughan Pierce, M.D. Eclectic Medical Institute, Cincinnati, 1865; of Buffalo, N. Y.; of Pierce Golden Medical Discovery and other patent-medicine fame; died at his winter home on St. Vincent's Island, Fla., February 3, from cerebral hemorrhage, aged 64.

Eugene D. Collett, M.D. Sioux City (Iowa) College of Medicine, 1909; formerly of Mangum, Okla., died in North Platte, Neb., Dec. 29, 1913.

William Kelly Simpson, M.D. College of Physicians and Surgeons, 1880; a Fellow of the American Medical Association, and New York Academy of Medicine; a member of the American Laryngological Society; for nine years professor of laryngology in his alma mater; consulting laryngologist to the Seton and St. John's hospitals, Yonkers, and the Somerset (N. J.) Hospital; laryngologist to the Vanderbilt Clinic, and consulting otologist to the Presbyterian Hospital, New York City; died at his home in New York City, February 6, from cerebral hemorrhage, aged 58.

Daniel C. Logue, M.D. New York University, New York City, 1856; acting assistant surgeon, U. S. N., during the Civil War, and surgeon of the *Monitor* during the historic fight with the *Merrimac*; after the war a practitioner of Brooklyn until 1900, when he retired from practice and moved to Bellmore, L. I.; died at his home, February 4, aged 81.

James Harvie Dew, M.D. University of Virginia, Charlottesville, 1867; a Fellow of the American Medical Association and the New York Academy of Medicine; a Confederate veteran; for nine years professor of anatomy, physiology and hygiene in the New York high schools; died at his home in New York City, January 26, aged 70.

George Douglass Dickerson, M.D. University of Louisville, 1879; a member of the Arkansas Medical Society; for two terms surveyor of Faulkner County; for two terms alderman of Conway; and for six terms president of the local school board; died at his home in Conway, January 23, from heart disease, aged 59.

Thomas Jefferson Shoemaker, M.D. Kentucky School of Medicine, Louisville, 1865; a Fellow of the American Medical Association, and one of the founders of the Ohio Valley Medical Association; died at his home in Morganfield, Ky., January 29, from organic heart disease, aged 76.

Mark T. Clay, M.D. Indiana Eclectic Medical College, Indianapolis, 1886; of Little Rock, Ark.; died suddenly in his buggy, January 15, from heart disease, aged 58.

James O. R. Carley, M.D. Hahnemann Medical College, Chicago, 1885; a member of the Kansas Medical Society; died at his home in Winchester, January 12.

Isaac S. Becker, M.D. Albany (N. Y.) Medical College, 1856; health officer of Altamont, N. Y.; died at his home at that place, January 13, aged 84.

Henry E. Zielly, M.D. Geneva (N. Y.) Medical College, 1849; formerly of Chilton, Wis.; died at his home in Spokane, Wash., Nov. 18, 1913, aged 87.

David T. Collier (license, Missouri, 1884); for more than half a century a practitioner; died at his home in Licking, January 4, aged 77.

Matthew Mark Kannon, M.D. Bishop's College, Montreal, 1879; of Los Angeles; died in the Sisters' Hospital in that city, January 10.

John D. Pulliam, M.D. Jefferson Medical College, 1861; of Plentiful, Va.; died in Richmond, January 15, from pneumonia, aged 76.

W. H. Franklow, M.D. Memphis Hospital Medical College, 1892; died at his home in Shiro, Tex., January 9, from pneumonia, aged 42.

Comfort E. Rutherford, M.D. Eclectic Medical Institute, Cincinnati, 1886; died at his home in Peru, Ind., Nov. 17, 1912, aged 82.

Harvey W. Swales, M.D. Medical College of Ohio, Cincinnati, 1891; died at his home in Logan, Ind., January 6, aged 43.

Marriages

William H. Roberts, M.D., Terre Haute, Ind., to Mrs. Louisa V. Zink of West Terre Haute, February 2.

Peter Hubert Cremer, M.D., Cannon Falls, Minn., to Miss Delia Noel of Mazeppa, Minn., January 29.

Fred Selby Perrings, M.D., to Miss Alice Biebinger, both of St. Louis, at Clayton, Ill., January 20.

Edward Freeman Walsh, M.D., to Mrs. Abbie W. Follette, both of St. Paul, Minn., February 4.

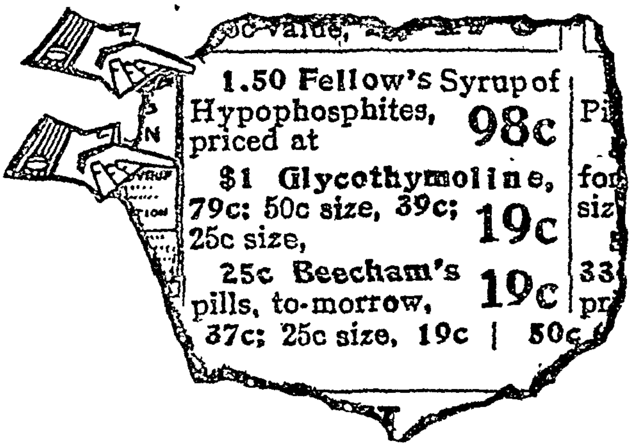
Clyde M. Zink, M.D., to Miss Sarah E. West, both of Louisville, at Indianapolis, February 3.

W. B. Carr, Jr., M.D. to Mrs. Tevis M. Elliott, both of Washington, D. C., February 2.

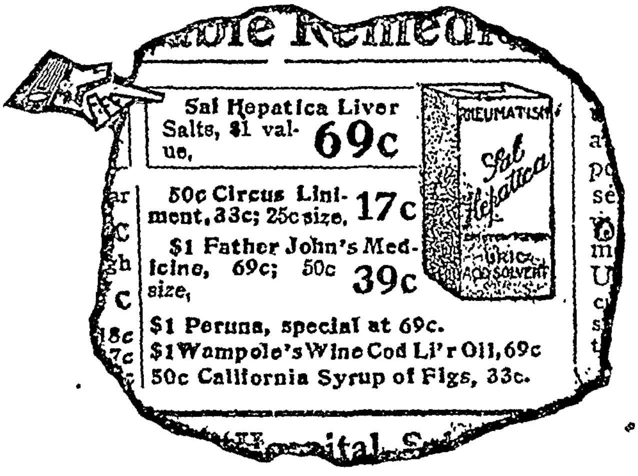
The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

WHEN IS A PATENT MEDICINE?


1.50 Fellow's Syrup of Hypophosphites, priced at 98c
$1 Glycothymoline, 79c; 50c size, 39c; 25c size, 19c
25c Beecham's pills, to-morrow, 19c
37c; 25c size, 19c | 50c

Some physicians and especially some medical journals seem to have difficulty in correctly classifying certain proprietary medicines. The drug departments of department stores find the problem a simple one. The reproductions shown above and below are of portions of a full-page advertisement in Chicago newspapers of Feb. 8, 1914. Fellows' Syrup of Hypophosphites, Glycothymoline and Sal Hepatica look perfectly at home with Peruna, Circus Liniment and Beecham's Pills


Sal Hepatica Liver Salts, $1 value, 69c
50c Circus Liniment, 33c; 25c size, 17c
$1 Father John's Medicine, 69c; 50c size, 39c
$1 Peruna, special at 69c.
$1 Wampole's Wine Cod Li'r Oil, 69c
50c California Syrup of Figs, 33c.
RHEUMATISM
Sal Hepatica
URIC ACID SOLVENT

SOME MORE FRAUDULENT OBESITY CURES*

Lucile Kimball

Lucile Kimball of Chicago comes to the obese with the message, "I can make your fat vanish by the gallon." Her claims are the stock claims of the "obesity cure" fakers of the "drugless" type. It is unnecessary, Lucile tells the fat-burdened, to change their method of living. All that is needed to remove their superfluous flesh is to take the Lucile Kimball home obesity treatment!

> ". . . my home treatment is not exercise or diet . . . eat any kind of meat, vegetables, salads, pastry, fish, fowl, nuts, candy that you want—when you want it. Drink what you want—when you want it. I don't interfere with your food or drink. No bending over, rolling, playing golf, horseback riding or doing exercises of any kind. Sit in your chair at home or in your chair at your office—and the fat will vanish from you by the pint, quart, and gallon. It goes away rapidly. It melts from your cells."

---

* These, with two other items to be published *next week*, will be incorporated in the pamphlet "Obesity Cure Fakes," price 10 cents.

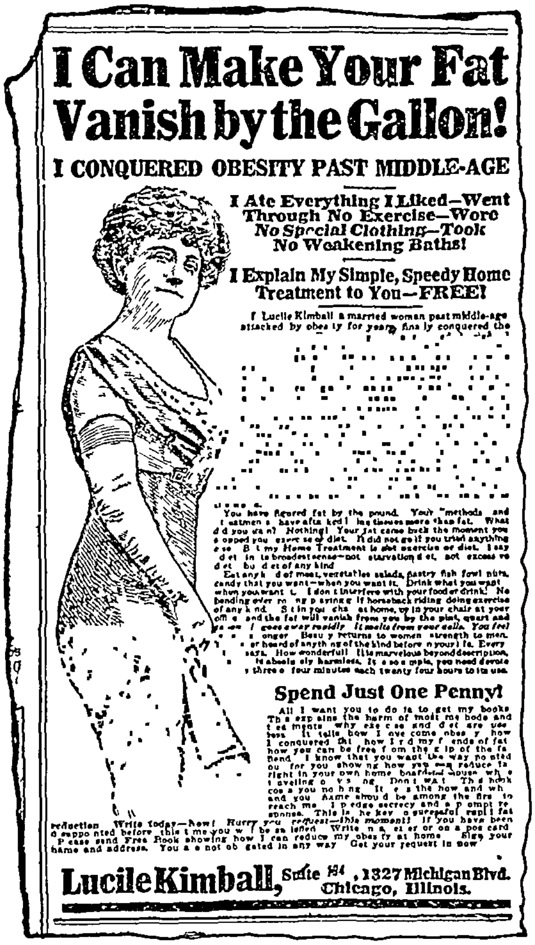
In her advertisements, Lucile pleads with her prospective victims not to send any money

> "Don't send a penny I will return it"

Like other frauds of this type, this "treatment" is entirely *different from every other "treatment"* It is essentially a "home remedy" "I am a home body," says Mrs Kimball, "opposed to the work of charlatans"—doubtless on the ground that competition is undesirable

To those who answer her advertisement Lucile Kimball sends a complete set of follow up letters The first letter describes the "cure's" simplicity

> "It does not attack living tissues It does not tear away muscle and healthy cells It simply converts your fat into an emulsion and passes it through your liver into your colon and out with your waste"



I Can Make Your Fat Vanish by the Gallon!

I CONQUERED OBESITY PAST MIDDLE-AGE

I Ate Everything I Liked—Went Through No Exercise—Wore No Special Clothing—Took No Weakening Baths!

I Explain My Simple, Speedy Home Treatment to You—FREE!

Spend Just One Penny!

Lucile Kimball, Suite 84, 1327 Michigan Blvd. Chicago, Illinois.

Truly a marvelous physiologic feat "And think of having to pay *only* Ten Dollars for this full and complete obesity treatment"

In the second letter Lucile rehashes that hoary anecdote about the Londoner who tried to sell sovereigns at a shilling apiece, but was unsuccessful because the public suspected a trick Says Lucile

> "I am offering you the equivalent of a gold sovereign for a cheap inexpensive little shilling Don't be too wise to see the bargain"

Therefore, "send your ten dollars . hurry it along do it while the spirit is on you" Letter three is of the "scare" type, an attempt to frighten the obese into taking the treatment Moreover, the price is reduced

> "Now I am going to give you an opportunity to secure this full treatment of mine, fully guaranteed, for only seven dollars . "

Letter four brings the price down to $5, letter five to $3 25, letter six to $1 79—providing the money is sent within three days—letter seven extends the time limit of the $1 79 offer

> "This is my final price—just $1 79, prepaid, I will never make you another offer This treatment cannot be purchased for a penny less"

In spite of this, letter eight comes, offering "this regular ten dollar treatment for only one dollar"

This is the last of the follow-up letters If the victim fails to send the dollar, Lucile Kimball charges the account up to profit and loss Here, in brief, are the offers made to those who answer the Lucile Kimball advertisements

Letter 1. Only $10 for "lifetime's complete mastery over fat"

Letter 2 Send $10 "while the spirit is on you"

Letter 3 Only $7 "Easily worth a dozen times this price"

Letter 4 "Send only $5 by express or post office money order Send your order to day, my friend"

Letter 5 $3 25 "If I could make the price any lower I should be delighted to do so"

Letter 6 $1 79 "Must be done within three days from the time you receive this letter"

Letter 7 $1 79 "Have decided to extend my offer" "I will never make you another one"

Letter 8 Only $1 "Hasten your order"

And what is the Lucile Kimball home obesity treatment? Dr Wiley asked this question, and to answer it had the "treatment" analyzed He gave the result of the examination in an article by Miss A L Pierce and himself in *Good Housekeeping* for January, 1914 Here it is, in brief

Pink Pills Reported to consist principally of red pepper, menthol and bitters, probably gentian or quassia

Brown Tablets These the chemists declared to be an old-fashioned *cathartic pill of the aloin type*

Powder This consisted, according to the chemists, of a mixture of soap, Epsom salt and washing soda

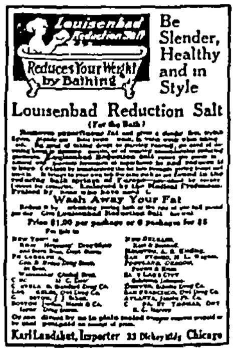
Surely much ado about nothing! We leave it to Lucile Kimball to explain the *following discrepancies* between facts and claims "No internal . . dosing", "No internal medicine" How about the purgative pills and the bitter tonic? "You don't have to take any special kind of bath" *What about the strong alkaline bath* powder consisting of soap, washing soda and Epsom salt?

Summed up the Lucile Kimball Home Obesity Treatment is palpably fraudulent and utterly worthless

Louisenbad Reduction Salt

Louisenbad Reduction Salt is sold by one Karl Landshut, Chicago It is a white powder and comes in tin boxes containing 14 ounces and costs $1 a box According to the label, Louisenbad Reduction Salt is

> "An obesity remedy for the reduction of superfluous fat without the use of drugs dieting or exercise"



Louisenbad Reduction Salt

Reduces Your Weight by Bathing

Be Slender, Healthy and in Style

Louisenbad Reduction Salt

(For the Bath)

Wash Away Your Fat

Karl Landshut, Importer Chicago

The stuff is supposed to be put *in the bathing water and baths are* to be taken "twice a week or oftener" A tablespoonful of the "salt" to a bathtubful of water is the amount prescribed This artistic touch is added to the label

> "Should the baths reduce faster than three lbs per week, they should not be used more than twice a week"

As a supplementary "treatment" it is urged that *the unsweetened juice of half a lemon should be taken on the same days* that the baths are taken The prospective purchaser is asked to believe that Louisenbad Reduction Salt has these powers

> "Removes superfluous fat and gives a slender form and stylish figure"
>
> "Enters the pores in a natural way, prevents formation of superfluous fat and reduces it where it exists by transforming the fat into strength giving blood and muscle"

The preparation was examined by the Association's chemists who reported, in part, as follows:

"*From the analysis* (made in the Association's laboratory) it appears that Louisenbad Reduction Salt has essentially the following composition:

Sodium sulphate, anhydrous (dried Glauber salt)	72.4 per cent.
Sodium chlorid (common salt)	11.2 per cent.
Potassium chlorid	16.4 per cent.

"The approximate cost of 14 ounces of such a mixture would be about 10 cents."

It is hardly necessary to say that taking a bath in a tubful of water in which a tablespoonful of a mixture of Glauber salt, table salt and potassium chlorid has been dissolved would have no other effect than that obtained from bathing in the same amount of water without the mixture. Two such baths a week would produce no appreciable effect in the diminution of weight of any individual who was not extremely dirty.

Correspondence

An Endowment Fund

To the Editor:—In contemplating the great humanitarian work which the Association and THE JOURNAL are doing—the propaganda for reform, the publication of Nostrums and Quackery, the work of the Council on Medical Education, the educational campaign against the social evil—I am impressed of late with this one thought: If the Association, with its limited resources, could accomplish so much in so short a time, what might we expect of it if its resources were large and secure! What, if we had a great endowment fund, might we expect from the coming years! What vast possibilities lie dormant for the lack of the one needful thing—money! How many people of great wealth, big-hearted, big-souled—"sun crowned, who live above the fog in public duty and in private thinking"—who would gladly bequeath liberal sums to a fund which could be used for such great and lofty purposes! Surely there is no greater service to mankind than that which this Association stands ready and pledged to perform if it had the wherewithal to do it. Why can we not establish such a fund and endeavor in every way available to let it be known, and for what purpose it exists? Why would it not be right and proper to seek out philanthropy and lay bare the great human needs that should be ministered to, and the great human purposes and ideals which this Association has in offering such ministry? I know not but this may be already a fixed policy with the Association: Already others may have had their own dreams and formulated them into fixed plans. If so, I am an intruder. If not, does the suggestion seem to merit some consideration?

S. A. FOOTE, M.D., Bay City, Tex.

Blood Transfusion in 1492?

To the Editor:—Under this title Dr. J. L. Joughin (THE JOURNAL, Feb. 14, 1914, p. 554) quotes from Villari's "Life of Savonarola" a passage purporting to give an "accurate record" of the first transfusion. The following passage from A. H. Mathew's "Life and Times of Rodrigo Borgia" (1912, Brentano's, p. 66) throws a somewhat different light on the same incidents:

"On the evening of July 25, 1492, the good-natured and incompetent Pope Innocent VIII passed away. It is related that, during his last illness, the operation for transfusion of blood was unsuccessfully performed. This, however, is an error arising from the forgetfulness of two important facts: (1) that the idea of this operation could not occur to any one to whom the circulation of the blood was unknown; (2) that the phenomenon of the circulation of the blood was not discovered until the seventeenth century. Raynaldus and Infessura say that a certain Jewish physician undertook to restore the Pope's health; for this purpose he drew all the blood out of three young boys, who immediately died. With their blood he prepared a draught which, in spite of the doctor's protestations, failed to improve the sick pontiff's condition. The saving virtue of drinking human blood was no new idea."

Mathew then quotes from Tertullian's "Apologeticus" a passage referring to the practice of drinking, as a cure for epilepsy, the fresh blood of criminals killed in the arena.

C. R., Chicago.

"The Doctor Can Wait"

To the Editor:—In "A Poor Man's Bank," by Walter Prichard Eaton, *The American Magazine* for February, one reads the following:

> To sit at a board meeting of the Atlanta Loan and Savings Company is an experience worth having. The secretary reads the new applications. John Doe applies for a loan of $100. He is a clerk, with a salary of $60 a month. His endorsers are a fellow clerk and his employer, or perhaps three or four of his fellow clerks. He has a wife and baby. The report on his character is good, and his endorsers are sound.
>
> "What does he want the money for?" somebody asks.
>
> The secretary reads from the application: "Baby's been sick, operation cost $50. Borrowed from shark. Owes doctor $50, drugs $12, grocer $9, rent $12, shark $47. Wants to pay as much as he can. Shark has been threatening him."
>
> "Who's the doctor?"
>
> "Dr. Smith."
>
> "I know him," says one of the directors. "He'll wait till we can get the man clear of his other debts. I'll see Smith to-night. That would reduce the indebtedness to $80. Lend him $80."
>
> "Hang it up! On to the next!" cries Director Sawtelle. The vote is unanimous.

Picturing the bluff, confident delivery of this director, one cannot help but be amused. The amusement, however, changes to something very like resentment on reflecting how his view is accepted generally. The director and John Doe will as a matter of course agree that Dr. Smith's services were the most necessary and highly trained. Yet the doctor is to wait. Are either of these men able to reveal the supernatural source from which Dr. Smith is to derive his support?

Changing this lay point of view is a duty incumbent on him who implanted it—the physician.

LAWRENCE SCHLENKER, M.D., St. Louis.

The Comparison Ocular

To the Editor:—In the article by Dr. D. G. Healy, on "A Comparison Ocular" (THE JOURNAL, Nov. 29, 1913, p. 1958), stress is laid on the date since which it has been used (May, 1912), and it is stated that the instrument has been constructed by Messrs. Bausch & Lomb, from the idea suggested by Dr. Healy. Furthermore, it is stated that it antedates by six months the comparison microscope devised by Dr. Thoerner in Germany. The Comparison Ocular described, is not new but is over twenty years old. It was made by C. Reichert, Vienna, on the suggestion of Dr. Henri von Heurck. It is fully described on pages 105 and 106 in his book, "The Microscope, its Construction and Management." The English edition was published in 1893 by Crosby Zockwood & Son, London, England, and the D. Van Nostrand Company, New York.

A. TRAEGER, New York.
American representative, ERNST LEITZ.

[The foregoing letter was referred to Dr. Healy who writes: I am glad to have this information regarding the origin of the comparison ocular. When I suggested the comparison ocular to Messrs. Bausch & Lomb, I was not aware that such an ocular had been made, and the idea as such was original with me.—ED.]

Radium Prices in Germany.—Consul Milo A. Jewett of Kehl notes that the Strassburg Hospital and University some time ago bought 200 mg. of radium at $76 per milligram, and has bought 100 mg. more, which will cost at present prices $98 per milligram (or at the rate of $3,000,000 an ounce, troy weight).—*Daily Consular and Trade Reports.*

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ASTHMA FROM ANAPHYLAXIS—HAY-FEVER SYMPTOMS FROM HORSE-SERUM

To the Editor:—In The Journal, Jan. 31, 1914, in Therapeutics, under the heading "Anaphylaxis," there appear some statements such as those in the following quotation:

"When antitoxin is indicated in diphtheria, or horse-serum in hemorrhage, one should be sure to inquire whether or not the patient is an asthmatic or a sufferer from hay-fever, and especially if horse emanations cause either of these conditions. If such is the case, all horse-serums are positively contra-indicated."

Please give me (1) the scientific proof (or sufficient scientific indication) that asthma and hay-fever are caused by anaphylaxis, and (2) the scientific proof (or sufficient scientific indication) that inhaled dust or emanations from horses can cause anaphylaxis (and thus cause asthma and hay-fever).

George E. Barnes, M.D., Herkimer, N. Y.

Answer.—1. Asthmatic symptoms are prominent in typical anaphylactic shock. In guinea-pigs contraction of the bronchioles is one of the characteristic phenomena of anaphylactic shock. In severe forms of serum disease the attack may begin with acute asthmatic symptoms, as in De Besche's case. In persons with "idiosyncrasies" with respect to various food substances such as eggs, strawberries, etc., acute asthmatic attacks associated with urticarial and other skin reactions may occur after the ingestion of the offending substances. Cases of so-called egg-asthma are described by Landmann, Moro, Koessler and others. In view of this state of facts it seems not unreasonable to believe that in susceptible, that is, sensitive persons, various bacterial proteins from foci of chronic infection also may cause asthmatic symptoms. In some cases it is supposed, too, that minute particles of foreign proteins suspended in the air may cause asthmatic reactions when inhaled by sensitive persons. This would seem to be illustrated in the case of persons who have asthma when they come into close contact with horses, go into tunnels, etc. In guinea-pigs primary sensitization, as well as the explosive anaphylactic shock, has been produced by spraying foreign serum into the trachea and lungs. For these and other reasons there would seem to be "sufficient scientific indication" to conclude that asthmatic attacks are the result of the direct action on the bronchioles and respiratory tract of substances developed in the course of parenteral protein digestion and hence of similar pathogenesis as "enteritis anaphylactica" and "conjunctivitis anaphylactica."

That hay-fever or hay-asthma is the expression of an anaphylactic reaction to certain pollens is indicated, first, by the fact that animals may be rendered anaphylactic with respect to pollen proteins, and secondly, by the fact that typical acute hay-fever with characteristic local reactions on the part of the nasal and other mucous membranes, as well as itching and urticarial eruptions, has been produced experimentally by the injection of the proper pollen into a hay-fever victim (Dunbar's experiment), the reaction occurring within a few minutes, whereas in a person not subject to hay-fever, such injection had no effect. The best explanation we have of this "idiosyncrasy" is that the hay-fever victim for some reason had ferments in his blood that split the pollen proteins so that toxic substances were produced, which caused the symptoms of hay-fever by their action on the respiratory mucous membranes, as well as cutaneous reactions like those familiarly seen in serum disease.

2. While we have no direct proof that dust and emanations from horses can cause the primary sensitization necessary in order to produce anaphylaxis experimentally, there are recorded quite a number of cases of abnormal sensitiveness to such emanations, generally taking the form of asthmatic manifestations and symptoms like those of typical hay-fever, and it is in just such cases that the injection of horse-serum has been followed by most violent reactions. In such cases sensitization must have been caused in some way, but just exactly how this occurred, whether from inhalation of emanation or otherwise, is not known. It is of course not quite correct to say that emanations from horses can cause hay-fever. What was meant is that in certain persons these emanations may cause symptoms like those of hay-fever. Such persons are likely to be taken with grave disturbances on the injection of horse-serum.

"THE LESSON IN ANATOMY"

To the Editor:—In connection with articles on Rembrandt's "Lesson in Anatomy" would say that I never examined picture closely, but heard that the origin and insertion of one of the muscles in picture is not anatomically correct. Is assertion correct?

J. F. E. Colgan, M.D., Philadelphia, Pa.

SCANDINAVIAN MEDICAL JOURNALS

To the Editor:—Please give me a list and the subscription prices of Swedish, Norwegian and Danish journals.

Ralph Holm, M.D., Wolbach, Neb.

Answer.—Following is a list of periodicals and the subscription price of each:

Hospitalstidende.—Publisher, Jacob Lunds Boglade, Pilestræde 6, Copenhagen, Denmark; editor, T. Rovsing; weekly; price, $8.25 a year, plus postage.

Ugeskrift for Læger.—Publisher, Den alm. danske Lægeforenings Bureau, Gl. Strand 44, Copenhagen, Denmark; editors, H. Mygind, V. Scheel and H. Maag; weekly; price, $5.35 a year, plus postage.

Norsk Magazin for Lægeridenskaben.—Publisher, Steen'ske Boktrykkeri, Christiania, Norway; monthly; price, $5 per volume, plus postage.

Tidsskrift for den Norske Lægeforening.—Publisher, Centraltrykkeriet, Christiania, Norway; editors, P. Aaser and R. Hansson; price, $4.05 a year, including postage.

Hygiea.—Monthly; $5; Stockholm.

Nordiskt Medicinskt Arkiv.—Irregular; 30 marks; Stockholm.

Upsala Läkareförenings Förhandlingar.—Irregular; 10 crowns.

ADMINISTRATION OF CALCIUM

To the Editor:—Please answer the following questions:

1. Which is the best salt of calcium to give intramuscularly or subcutaneously when you want calcium effect in case of calcium insufficiency? What about the irritation?
2. What are the dosage and dilution of solution of these salts when thus given?
3. Which is the best salt of calcium to give orally for an acidemia and for a calcium insufficiency?
4. What dosage orally?
5. Are the lactate and glycerophosphate equally good for a systemic effect of calcium for the nerves?
6. What foods have the largest percentage of calcium?

George F. Way, M.D., Buffalo, Ill.

Answer.—1. The lactate of calcium is less irritating than the chlorid, and would probably be the best salt to give intramuscularly or by hypodermic injection. It is doubtful if the demand for calcium is ever so pressing as to require hypodermic injection.

2. A dose of 5 grains should be sufficient. Calcium, when administered internally, is rapidly excreted; hence there could be no object in giving large doses. It may be given in a 4 per cent. dilution.

3. The lactate and chlorid of calcium are commonly selected for internal administration. Of these the lactate is less irritating, and is preferable.

4. The dose is 0.5 gm., or 7½ grains.

5. Yes; the effect so far as the calcium is concerned will be the same. There is no good evidence that glycerophosphate has any special effect on the nerves or other functions.

6. Milk, yolk of egg, peas, egg-albumin, potato, wheat, beef. This order is determined by the proportion of calcium in the dried substance and would need some modification if we consider the foods in the form in which they are eaten.

FRANCIS ADAMS

To the Editor:—Please furnish me with some information touching the life of Francis Adams, LL.D., surgeon, the translator and editor of the works of Hippocrates, published under the auspices of the Sydenham Society of London.

Charles Turner Sands, M.D., Las Cruces, N. Mex.

Answer.—Francis Adams (1796-1861), born at Lumphanan, Aberdeenshire, Scotland, and known as "Adams of Banchory," from the village in which he practiced, and also "the Deeside scholar," was a graduate of Kings College, Old Aberdeen, and, after studying medicine, became an M.R.C.S. (London) in 1815. Although described as a good practitioner and a skilful operator, his specialty was his classical learning as applied to medicohistorical research. From the age of 15 on he is said to have devoted seventeen hours a day to the study of Virgil and Horace, reading each six or seven times in succession, and during his professional life he managed to read "almost every Greek work which has come down to us from antiquity, except the ecclesiastical writers." He had a large share in the compilation of Dunbar's Greek Lexikon (1840), to which he contributed a valuable list of Greek names of animals, plants, etc.; was the author of "Hermes Philologus" (1826), on the difference between Greek and Latin syntax, and published two volumes of translations of Greek poems (1820, 1853); but his most important works are his well-known editions of Paul of Aegina (1834) and Aretaeus (1856) with text, commentaries and translations, and particularly his English translation of the genuine works of Hippocrates (1849), with valuable historical introduction and notes, which is the standard English translation for all practical purposes. These three performances are the most important British contributions to the history of Greek medicine in Adams' time, and have not been surpassed since that time. Adams was a good surgeon, obstetrician and botanist, although it is said that he obstinately declined to believe that the fetal heart-sounds can be heard by auscultation. In his memory, there have been erected a monument at Banchory (put up by public subscription), a granite obelisk, with Latin inscription, and a marble bust in the University of Aberdeen.

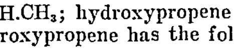
GLYCID—ACETOL

To the Editor:—In THE JOURNAL, Jan. 31, 1914, p. 409, Abstract 40, mention is made of glycid and acetol. I do not find these terms in my dictionary. What are these preparations?

Q. D. V.

ANSWER.—Glycid is the oxid of hydroxypropene. The following formulas will make this relation plain:

Propene is $CH_2{:}CH.CH_3$; hydroxypropene is $CH_2{:}CH.CH_2.OH$, and the oxid of hydroxypropene has the following formula:



$$CH_2\overset{\diagup O \diagdown}{\text{—}}CH.\,CH_2.\,OH.$$

It is isomeric with lactic aldehyd and with acetol.

Acetol is hydroxy-acetone, an alcohol with the formula $CH_3.CO.CH_2OH$. The corresponding formula for acetone is $CH_3.CO.CH_3$. Acetol is isomeric with lactic aldehyd and with glycid. Both glycid and acetol lack only an atom of oxygen to change them into lactic acid: $CH_3.CH(OH)COOH$.

The close relation of these substances with lactic acid led to the question whether they might be transformed into lactic acid and thus lead to the formation of sugar. The experiments of Geer, Witzemann and Woodyat showed that this supposition is incorrect.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

STATE LAWS ON COMMUNICABLE DISEASES

One of the most important functions which any department of our federal government can perform is the collection and publication of valuable information regarding conditions in the states. Owing to our peculiar form of government, there are many activities which, in other nations, are under the jurisdiction of the national government, but in this country are purely state functions. The regulation of public health except in matters in which the entire nation is affected, has always been considered to be one of the prerogatives of the state, and any efforts to enlarge the public health jurisdiction of the federal government always encounter a certain amount of opposition, regardless of the merits of the proposition, from those who were opposed to any extension of federal power at the expense of state authority. Practically everyone is agreed, however, that the collection and distribution of information by the federal government cannot possibly impair the authority of the state, but can be of great service in bringing about a more accurate knowledge of conditions. Entirely aside from any views which may be held on the possibility or advisability of a national Department of Health, or of further expansion of the present Public Health Service, there can be no difference of opinion among reasonable persons as to the value of any efforts which the present Public Health Service may make to collect and make available accurate information regarding health conditions in the different states. One of the most important subjects which could possibly be taken up in this connection is the study of state public health legislation. A most valuable contribution to the literature on this subject has just been issued by the United States Public Health Service, in the form of *Public Health Bulletin 62.* It is entitled "Communicable Diseases: An Analysis of the Laws and Regulations for the Control thereof in Force in the United States." It has been compiled by Dr. J. W. Kerr, Assistant Surgeon-General of the Public Health Service, with the assistance of Mr. A. A. Moll. It includes, first, a comparative study and analysis of the federal, state and territorial laws and regulations for the control of communicable diseases; secondly, court decisions enforcing and interpreting these laws, and thirdly, the complete text of all federal, state and territorial laws relating especially to the control of communicable diseases. The compilation is complete up to July 1, 1913. The value of this bulletin to public health officials and to those interested in public health legislation can hardly be overestimated. The detailed and accurate comparison and analyses of the laws will surely have a marked influence on the drafting of bills on this subject in the future, as well as on the interpretation and enforcement of laws already enacted. In the analysis of the laws and comments on their development, the authors point out the fact that all communicable diseases are preventable, but that an attempt to bring about such prevention solely through the enactment and enforcement of laws is impossible. The enforcement of laws in this country requires the support of public opinion, which, in turn, requires the education of the public by the presentation of facts showing the necessity and value of such laws. The authors also point out the necessity as an administrative measure of drafting public health laws on the most advanced and broadest scientific knowledge, leaving the regulation of technical details to the boards. They also show that reasonable appropriations are necessary for modern public health work, and that failure to provide sufficient funds practically amounts to nullification of the law, while ample provision in this respect will make it possible to prevent a large proportion of deaths now caused by communicable diseases. Finally, there must be uniformity in legislation and cooperation in administration between the federal, state and local health authorities. The history and development of public health legislation on communicable diseases is also carefully studied, it being shown that it is the intent of Congress, generally speaking, simply to cooperate with the states in this field, and not in any way to supersede them in the sovereign exercise of their police powers. It is recognized that this is a fruitful field for discussion, and that the extension of federal powers under the "commerce clause" is but a slow and doubtful process at best. That there must be cooperation with the federal government is evident on account of the possibility of spreading disease through interstate commerce, in order to control the interstate sale of serums, to secure uniformity of action among the states through annual conferences with the federal health authorities, and the like. In the matter of national quarantine, however, it is recognized that the federal health authorities must be supreme. This involves the control of quarantine, in foreign ports, on the high seas and in domestic ports of entry. It is also necessary for the federal government to control the public health questions involved in the restriction of immigration; but even the assumption of these powers as a purely federal function, and their evolution into a nation-wide system, has required nearly a century since the adoption of the Constitution. One sees in this a suggestion, although there is no statement to this effect in the bulletin, whether the tendency of public health legislation in this country is not perhaps at first an attempt toward uniformity and cooperation by the states with ultimately a recognition of the necessity of universal federal control. The entire bulletin is of the utmost value to the student of public health legislation and administration. The sections citing court decisions and the reprint of the texts of the laws are of self-evident value. The bulletin is a most creditable piece of work both to the Public Health Service and to Dr. Kerr, under whose supervision it was compiled.

PUBLIC HEALTH MEASURES IN STATE LEGISLATURES

Last winter probably marked the climax of weird, erratic and uncontrolled efforts at state public health legislation. In the forty-three state legislatures which met at some time during 1913, an indefinite and indeterminate number of bills on public health topics were introduced. How many there were it is impossible to say accurately. There were over one thousand and probably nearly twelve hundred. In practically every state, bills on almost every conceivable phase of public health, especially its popular aspects, were before the legislature. Many of the bills were, no doubt, carefully drafted, and if their passage could have been secured they would have been valuable additions to the laws of the state. Most of them, however, represented hobbies and theories, rather than facts. To expect legislatures composed mainly of laymen without any scientific knowledge to separate the wheat from the chaff was asking an impossibility. Some of the states undoubtedly secured valuable additions to their public health laws, but in many cases the patience of the legislatures was exhausted through the presentation of loosely drafted measures not in shape for serious consideration. A conspicuous example is the Wisconsin law requiring a health certificate of the groom as a condition for the issuing of a marriage-license. Whether the "horrible example" presented by Wisconsin has had a deterring influence on the state legislatures, or whether the moderation shown is simply a reaction from the extremes of a year ago, it is markedly apparent that the number of proposed public health measures this year is greatly reduced.

According to the best available information the legislatures are at present in session in Georgia, Kentucky, Maryland, Massachusetts, Mississippi, New Jersey, New Mexico, New York, Ohio, Rhode Island, South Carolina and Virginia. In May the Louisiana legislature will meet. So far the bills on public health topics are few. In Georgia, a bill providing for the medical inspection of schoolchildren has passed the senate. The bill provides that medical services for such inspection are to be furnished free, that no permanent appointments are to be made and that no facilities for inspection are to be provided by the state. Apparently, the physicians of Georgia are willing to donate their services, feeling sure that the results secured will justify a continuance of this work. In Kentucky, a bill moving the office of the State Board of Health to Frankfort is before the senate, the committee having reported against it. In Massachusetts, a bill limiting the sale of mercuric chlorid tablets has been introduced. In Mississippi, bills are under consideration for the establishment of county sanatoriums for tuberculosis and providing sanitary closets for rural schools. In New York, the usual antivivisection bill has been introduced by those who have been carrying on a professional antivivisection campaign for years past This bill was introduced by Senator Herrick of New York City, and provides for a commission of seven to investigate the entire question of animal experimentation. The commission is to consist of two physicians "practicing vivisection," two persons connected with societies for the prevention of cruelty to animals and three attorneys. In New Jersey, a bill similar to the Wisconsin law has been introduced, requiring each party to a marriage contract to present a certificate from a reputable physician certifying their freedom from disease. A bill has also been introduced defining the practice of medicine, under the medical practice act, so as to include "those who hold themselves out to the public as able to diagnose, treat, operate or prescribe for any injury, disease, or who shall use the designation M.D. or M.B." In Ohio a bill has been introduced requiring practicing physicians to pass an examination every two years in order to retain their license. In Virginia, a bill has again been introduced removing the occupation tax on physicians. The medical profession of the state has been endeavoring for several years to secure the repeal of this measure. An optometry bill has also been introduced. The state board of health has asked for a special appropriation to establish a sanatorium for negro consumptives. In South Carolina, a bill similar to the Wisconsin law regulating marriage was killed in the senate.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut: New Haven, March 10. Sec., Dr. Charles A. Tuttle, New Haven. Homeopathic: New Haven, March 10. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Eclectic: New Haven, March 10. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

Maine: Portland, March 10-11. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

Massachusetts: Boston, March 10-12. Sec., Dr. Walter P. Bowers, Room 159, State House, Boston.

Wyoming: Laramie, March 10-12. Sec., Dr. H. E. McCollum, Laramie.

Medical Scholarships at the University of Virginia

The current catalogue of the University of Virginia announces that under the will of Dr. Cumberland George Herndon, two scholarships named after the testator's father, the William A. Herndon scholarships, have been founded in the Department of Medicine of that institution. Candidates must be unable to defray expenses of their medical education except by borrowing or doing outside remunerative work during the session, and must signify their intention of entering the medical service of the Army or Navy of the United States. The scholarships provide for the necessary expenses of the student during the four years of his medical course, and will yield approximately from $425 to $450 per annum, according to the income from the fund. They will be awarded as vacancies occur. One will be awarded in September, 1914.

Texas June Report

Dr. W. L. Crosthwait, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Austin, June 24-26, 1913. The number of subjects examined in was 12; total number of questions asked 120; percentage required to pass, 75. The total number of candidates examined was 147, including 10 osteopaths, of whom 138 passed, including 9 osteopaths, and 9 failed, including 1 osteopath. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Birmingham Medical College	(1912)	78
University of Colorado	(1913)	91.7
College of P. and S., Atlanta	(1905) 84.5; (1913)	80
Chicago College of Medicine and Surgery	(1913, 2)	82, 82
University of Louisville	(1911) 78; (1913)	75.4, 76, 77, 80, 80.5, 89.9.
Tulane University	(1912) 85, 88; (1913)	85, 85.7, 87, 87
Johns Hopkins University	(1910)	87
American Medical College, St. Louis	(1913)	78.7
Columbia University, Coll. of P. and S., N. Y.	(1912)	81
University and Bellevue Hospital Medical College	(1908)	87
Leonard Medical College	(1910)	85
Jefferson Medical College	(1906)	90
Vanderbilt University	(1913)	78.2, 80, 82, 83.1, 87, 87.5, 88, 88.5
Memphis Hospital Medical College	(1896) 80; (1902) 84; (1912)	78.5.
Sewanee Medical College	(1899)	83
Meharry Medical College	(1907) 76.2, 78; (1912) 79; (1913)	75.5, 76.7, 79.7, 81.5, 82.5, 83.3, 85, 85.5
Fort Worth School of Medicine	(1913)	80, 80, 81, 82, 85, 85, 86.2, 87, 87.5.
University of Texas	(1911) 87.5; (1913)	77.7, 78.2, 79, 81, 81.4, 81.5, 82, 82, 82.3, 83, 83.5, 84, 84.2, 84.5, 85.3, 86, 86, 86, 86.5, 87, 87, 87, 88, 88, 88.2, 88.5, 89, 89.2, 90, 90, 90.5, 90.9, 92.9
Southern Methodist University	(1912) 84; (1913)	75.1, 78, 79, 79, 79.5, 82.5, 82.7, 83, 83, 86, 86, 88, 88.5.
Baylor University	(1912) 76; (1913)	75.2, 77, 77.9, 80, 82, 82, 82, 82.5, 83, 84, 85, 86, 86, 87, 87, 88.7, 89, 90.
National School of Medicine, Mexico	(1880)*; (1895)*; (1901)*	
Monterrey Medical College, Mexico	(1889)*	
†		76.5
FAILED		
University of Louisville	(1912)	*
Meharry Medical College	(1912) 54, 66.5, 75.7‡	*
University of Tennessee	(1912)	72.7
Baylor University	(1913)	70.5
Fort Worth School of Medicine	(1912)	58.2

* No grade given.
† No college given.
‡ To come before review committee.

The following questions were asked:

ANATOMY

1. Give the course and distribution of the trifacial nerve. 2. Name and give the origin of the arteries supplying the stomach, small intestines, large intestines. 3. Give the course and branches of distribution of the femoral artery. 4. Name the ligaments of the

knee-joint. 5. Name the structures forming the larynx. 6. Give the formation of the brachial and lumbar plexus and name main branches given off from each. 7. Enumerate the bones forming the orbit. 8. Give origin, insertion, nerve-supply and action of the pronator radii-teres muscle. 9. Describe the diaphragm, its principal openings and nerve-supply. 10. Give the characteristic points of cervical, dorsal and lumbar vertebrae.

HYGIENE

1. What are the diseases by preventing which the average of human life could be prolonged? 2. How would you disinfect a room after occupancy by a patient with an infectious disease? 3. What methods do you adopt to prevent infection during labor, and what instructions do you give for the care of the mother and child during the lying-in period? 4. What are the parasitic diseases that may be caused by meat insufficiently cooked? 5. What are the principal pathogenic bacteria found in milk? 6. How would you test milk for impurities? For adulterants? 7. What is the difference in appearance between healthy and spoiled meat? 8. Give five reasons from a hygienic standpoint why the fly should be swatted. 9. In what ways is meat adulterated or "doctored"? 10. What amount of floor-space should be allowed in a schoolroom for each child? Give proper height of ceilings of schoolrooms, and what should be least window area in proportion to size of window?

MEDICAL JURISPRUDENCE

1. For medicolegal purposes "mortuary law" is classified into four divisions; name them. 2. What do you understand by the term "suggillation?" Give its medicolegal significance; describe a post-mortem in a medicolegal case. 3. Give methods employed in the identification of blood-stains and examination of blood; differentiate between human and animal blood. 4. Give four common causes of death from wounds; differentiate between punctured and penetrating wounds inflicted before and after death. 5. Differentiate post-mortem findings of carbonic-acid gas and sulphuretted hydrogen gas. 6. Name seven forms of medicolegal pregnancy; give medicolegal importance of the uterus in the dead. 7. Give conditions or grounds warranting "justifiable abortion"; give the necessary safeguards to be observed, so as not to be held responsible for assault and criminal abortion. 8. In the consideration of insanity and its relations to the law give the two important questions to be determined; give distinction between intellectual and moral insanity. 9. Give four classifications or divisions of monomania and define each. 10. As applied to life insurance, what is meant by "material concealment?" Give relations of suicide to life insurance.

PHYSICAL DIAGNOSIS

1. State physical signs of pyloric stenosis. 2. Differentiate lobar from bronchopneumonia. 3. Give the physical signs of Raynaud's disease and describe the different grades. 4. State the principal diagnostic symptoms of scarlatina, diphtheria, variola, rubeola. 5. What is Cheyne-Stokes respiration? Argyll Robertson pupil? Widal's test? Wassermann reaction? Koplik's spots? 6. State briefly the principal diagnostic points of tetanus, exophthalmic goiter, chorea. 7. What are the plantar reflexes? What is the diagnostic value of the plantar reflexes? 8. In aortic and mitral insufficiency, where is the murmur he[illegible]hat is its direction of transmission? 9. [illegible] in ascites and cystic ovary. 10. Give [illegible]rebrospinal meningitis and acute anterio[illegible]

PHYSIOLOGY

1. Give average normal temperature, rate of pulse and of respiration in (*a*) the infant, (*b*) the adult, (*c*) the aged. 2. Define protoplasm, and give the characteristic properties of living protoplasm. 3. Describe the heart-sounds and state to what they are due. 4. What digestive changes take place under the influence of saliva and of gastric juice? 5. State the origin and function of bile; give quantity secreted in twenty-four hours. 6. Describe the process by which digested food is absorbed. 7. Describe the physical properties of the blood and name its constituents. 8. State origin of urea in the body; give average amount excreted in twenty-four hours. 9. Give function of (*a*) medulla oblongata, (*b*) the cerebellum. 10. Describe in detail how the placenta performs its functions.

PATHOLOGY

1. Name some of the tissue changes incidental to old age. 2. Give the pathology of acute lobar pneumonia. 3. Name some of the most essential lesions found in acquired syphilis. First, second and third stages. 4. Name the chief findings in enteric fever. 5. Give the pathology of chronic interstitial pneumonia. Give the pathology of hemorrhoids. 7. Name the morbid cha[illegible] of the pituitary body. 8. What morbid [illegible] from disease of the adrenals? 9. Nam[illegible] changes resulting from cerebral hemorrhage. 10. What is an opsonin? 11. What do you understand by productive inflammation? 12. What is the pathology of diabetes mellitus? Answer as many as ten of the above questions.

SURGERY

1. What are the symptoms of air embolism? Give treatment. In what region are surgical operations most liable to be followed by this condition? 2. Give the symptoms of simple, compound and compound comminuted fracture and treatment of each condition of tibia and fibula. 3. Give symptoms of patient indicating tracheotomy; then intubation, and describe fully each operation. 4. Diagnose an infective exudate of the pericardial sac, beyond controversy, and state how you are going to relieve this condition. 5. Differentiate tuberculous and syphilitic synovitis. Give structural changes that induce symptoms of, and describe in detail Bassini's operation for strangulated, oblique inguinal hernia. 7. Differentiate concussion, comprehension and congestion of the brain. 8. Give differential diagnosis of pelvic peritonitis and impaction of feces. 9. Give signs and symptoms of cervical rib, and state how cervical rib produces signs and symptoms. 10. How should a dissecting wound and attendant blood-poisoning be treated? What is rational treatment of suppurative abscess from its initial symptom? Give symptoms and treatment of psoas abscess, and state with what condition it may be confused.

GYNECOLOGY

1. Give the (*a*) clinical diagnosis, (*b*) microscopic diagnosis of carcinoma of the cervix uteri. 2. Differentiate between tubal pregnancy and ovarian cyst. 3. Name a[illegible] of the uterus and briefly outline an adeq[illegible]rrection of retroversion of the uterus. 4. Wl[illegible] demand hysterectomy? 5. Give a clinical [illegible] chronic pyosalpinx and outline an adequat[illegible]elief of same. 6. Define amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia and vicarious menstruation. 7. Describe clinically and pathologically three types of endometritis. 8. Describe the ovary (*a*) as to its anatomic relationships; (*b*) as to its physiologic function. 9. A woman aged 35 has an intermenstrual flow or discharge streaked with blood; mention four probable causes of same and make differential diagnosis with reference to malignant disease. 10. Give the etiology, pathology and clinical diagnosis of chronic cystitis of women.

OBSTETRICS

1. Describe the changes that take place from the time the ovum is impregnated to the beginning of the second month. 2. Give the cause and mechanism of labor. 3. How would you manage a shoulder presentation? 4. Define ectopic gestation. Differentiate same from uterine pregnancy. 5. Give etiology and management of eclampsia. 6. Define uterine inertia. (*b*) What do you understand by primary and secondary inertia? Describe same. 7. Give management of third stage of labor. 8. How would you do a podalic version? 9. Give management of puerperal stage. 10. Give etiology of hyperemesis and management of same.

CHEMISTRY

1. Complete the *following* equation: $NaCl + H_2SO_4 =$.......... and name resultant compounds. 2. Differentiate ethyl alcohol from methyl alcohol, giving formula of each. 3. Name three extensively used carbon compounds which under certain conditions are dangerous to life. 4. State source of cyanogen gas and name two most important compounds. 5. Give a reliable test for nitrites. 6. (*a*) From what is the alkaloid muscarin derived? (*b*) Give symptoms of poisoning, (*c*) fatal dose, and (*d*) physiologic antidote. 7. How would you test water suspected of sewage contamination? 8. Describe a reliable method of determining the quantity of urea in a specimen of urine. 9. Describe a test for, (*a*) albumin, (*b*) sugar, (*c*) pus, (*d*) blood, (*e*) indican and (*f*) chyle. 10. Name chemical antidote for nitrate of silver, or lunar caustic, and say how it acts.

Minnesota January Report

Dr. Thomas S. McDavitt, secretary of the Minnesota State Board of Medical Examiners, reports the oral, written and practical examination held at Minneapolis, Jan. 7, 1914. The number of subjects examined in was 10; total number of written questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 6, of whom 3 passed and 3 failed. Ten candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
College of Physicians and Surgeons, Chicago	(1909)	87
Detroit College of Medicine	(1906)	82
University of Minnesota	(1893)	79
FAILED		
Bennett Medical College	(1913)	*
Minneapolis College of Physicians and Surgeons	(1908)	71
Marquette University	(1908)	77†

* No grade given.
† Fell below 75 per cent. in major branches.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery	(1913)	Illinois
College of Physicians and Surgeons, Chicago	(1906)	Iowa
Northwestern University	(1900) Illinois; (1911) Illinois; (1912)	Illinois.
Rush Medical College	(1903) Illirois; (1911)	Illinois
University of Illinois	(1913)	Illinois
Jefferson Medical College	(1905)	Vermont
Marquette University	(1912)	Wisconsin

New Hampshire January Report

Dr. H. C. Morrison, regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, Jan. 6-7, 1914. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 11, of whom 9 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University	(1913)	79
Boston University	(1912) 90; (1913)	93
Tufts College Medical School	(1913)	81, 82
Dartmouth Medical School	(1911) 75; (1913)	84, 87
University of Vermont	(1913)	77
FAILED		
National University, Athens, Greece	(1897)	43
Tufts College Medical School	(1895)	59

Book Notices

STUDIES CONCERNING GLYCOSURIA AND DIABETES. By Frederick M. Allen, A.B., M.D. Cloth. Price, $9. Pp. 1179. Boston: W. M. Leonard, 1913.

"The present work," the author says, "represents three years of research in the Laboratory of Preventive Medicine and Hygiene of the Harvard Medical School." It is in no sense a clinical study and contains no direct clinical observations. Concerning the scope of the monograph Allen says, "It aims primarily to present the results of research."

The volume is large, and the greater part is devoted to an elaborate presentation of the literature. This review represents a stupendous and commendable work agreeably done and possessing a genuine value for the investigator who desires to grasp what has been accomplished in an unfamiliar department of diabetic investigation. As arranged by Allen and interlarded with his original comment and speculation, it forms suggestive and entertaining literature, revealing many facts which have not received the emphasis due them, and, indeed, sending the imagination on many a rapid flight. This constitutes the most commendable feature of the book.

In general it may be said that the experimental work has been mainly on the administration of different sugars by different methods (oral, subcutaneous, intravenous, etc.), to different species of laboratory animals in a state of health and in the glycosuric states produced by such procedures as piqûre, epinephrin, phlorhizin and pancreatectomy. Observations were made on the intensity of the glycosuria and on the diuretic or antidiuretic effects of the doses given. There are also many data and much comment concerning the operation of pancreatectomy—total and graduated. A few salient features may be picked out for discussion.

Allen says that if about four-fifths of the pancreas be removed in such a way that the remaining fifth is left in communication with the ducts or duct, this fifth will serve to prevent the occurrence of diabetes, as is known to be the case when other parts are left, but that in this instance the intestinal digestion and general nutrition are only slightly impaired and the dog remains in exceptionally good condition. In the course of time diabetes develops as in other experiments of the Sandmeyer type. This scheme provides apparently a valuable technic for the preparation of diabetic material for laboratory purposes.

Another feature on which Allen lays particular stress is what he terms the "paradoxical law." "Briefly, this law is that the more sugar is given, the more is utilized. Limits of tolerance in non-diabetic animals are all apparent, not real. There is no real limit of the power of utilization of sugar, except death. The law applies to all species of animals, to all methods of administering sugar, and to all sugars and carbohydrates, provided they can be utilized at all. The paradoxical law of dextrose distinguishes sharply between diabetic animals and every type of non-diabetic animals. The limits of tolerance in diabetic animals are real and not apparent. In totally diabetic animals, an injection of dextrose causes an increment of glycosuria not only equal to, but frequently greater than, the injected dose. In milder diabetes not only is the proportion of excreted to injected dextrose generally high, but the assimilation may be made worse instead of better by overdoses." Allen also attaches great importance to the diuretic or antidiuretic effects of doses of sugar when given by different methods in different conditions. We quote:

"The observations of numerous investigators, that all the common sugars are diuretics when given intravenously, was verified. But all the freely utilizable sugars when given otherwise than intravenously (orally, subcutaneously, intraperitoneally, also, according to Halasz, rectally) are antidiuretics, i. e., they diminish the output of urine. In other words, as respects diuresis, these sugars, when given intravenously, obey the law of crystalloids, and when given otherwise they obey the law of colloids. On the basis of this diuretic test, diabetes was distinguished experimentally from the following forms of glycosuria." Alimentary, hunger, toxic, phlorhizin, thyroid and nervous glycosuria are enumerated.

"The explanation proposed for these phenomena is that dextrose exists in the normal body in a state of colloid combination; as a colloid it can be utilized by the tissues, and it diminishes diuresis like other colloids. It assumes the colloid form in passing through any living membrane, it never circulates in crystalloid form in the normal organism except for a certain length of time after direct intravenous injection. In the diabetic organism, dextrose circulates as a free or very poorly combined crystalloid, in this state it is not available to the tissues, and it is a diuretic like other crystalloids."

The chief facts brought out by Allen have in most instances been noted before, but probably never have received the emphasis, or exactly the interpretation here given them. That free crystalloid sugar is diuretic is not a new conception. That the antidiuretic effect of utilizable sugars in health is due to sugar in colloid combination, if expressed before, has not gained currency. The facts that Allen employs in his arguments are in the main correct, but not wholly so, the interpretation offered is by no means an inevitable one, although highly interesting. Most clinicians who have seen much diabetes will recall cases in which the glycosuria and diuresis did not run parallel even in the severe cases of genuine diabetes mellitus, and those familiar with phlorhizin will hesitate to accept Allen's conclusions regarding it.

When the ratio of the velocity at which sugar enters the blood to that at which it is utilized exceeds a certain value diuresis may be expected—in health or in diabetes. When the rate of entry is less than, equal to, or but little greater than the possible rate of utilization, the opposite effect may be expected—in health or in diabetes, or in phlorhizin glycosuria. It surely never has been proved that there is no limit to the rate at which sugar can be made to burn in the body. In a case of severe diabetes a relatively slow entrance of sugar into the blood (oral administration) might be expected to produce the same effect which in health is attainable only by a very rapid entry (intravenous injection). And so in some cases of diabetes the alimentary or subcutaneous methods may suffice to cause diuresis whereas in health the intravenous method must be resorted to in order to obtain parallel results, and in phlorhizin glycosuria diuresis can be produced with dilute sugar solutions slowly given.

Allen's proposal that these phenomena are ascribable only to the power of "living membranes" to link up sugar into a colloidal combination with a specific "pancreatic amboceptor," lack of which constitutes "a condition *sui generis*" known as diabetes would seem to be a step away from the sun of the pure sciences, the expression of a physicochemical problem in terms of Ehrlich's hypothesis. Nevertheless there is food for thought in Allen's concept, in his arguments favoring the idea that normal blood sugar is in some sort of colloidal combination, and in his analysis of other phases of the diabetic problem. The book will have a stimulating effect.

KURZER LEITFADEN DER PSYCHIATRIE. Für Studierende und Aerzte. Von Dr. Ph. Jolly, Assistenten an der Psychiatrischen und Nervenklinik in Halle a. S. Paper. Price, 4 marks. Pp. 240. Bonn: A. Marcus & E. Webers, 1914.

This is a concise compend of psychiatry which aims to give the chief and generally recognized facts regarding mental diseases, especially those of practical importance, avoiding theoretical considerations as far as possible. Seventy-two pages are devoted to general psychiatry, with consideration of general etiology, symptomatology, diagnosis, pathology, prognosis and treatment, giving clear definitions of terms used in psychiatric literature and detailed and practical directions for taking the history and making physical and mental examinations. Descriptions are given of tests for all the principal physical and mental symptoms and signs encountered, and brief statements are made as to the significance of each one and the mental diseases in which it is apt to be found. The author does not discuss the subject of psychanalysis. A special portion deals with individual conditions.

Miscellany

Standardizing Mercuric Chlorid Tablets.—The frequent cases of poisoning by mercuric chlorid tablets sold to the laity in the drug-stores, usually under the name of antiseptic tablets, has brought forth many suggestions as to the manner in which these tablets should be prepared and dispensed in order to give them a distinctive character and of calling attention to their poisonous properties. A large number of these tablets are put on the market by different pharmaceutical manufacturers in different shapes and colors, some in distinctive bottles or packages and containing various quantities of the poisonous salt. M. I. Wilbert of the United States Public Health Service in *Public Health Reports, Nov. 14, 1913,* discusses the subject of these poisonous tablets and says that at present there is sufficient legislation, if enforced, to serve as a reasonable safeguard in connection with their sale. Thirty-eight states include corrosive sublimate specifically in the laws designed to restrict the sale of poisons, and only in the law of Utah are corrosive sublimate tablets exempted from registration in the poison register. During 1913, Oregon, Nevada and California enacted modified poison laws and specifically enumerated tablets of corrosive sublimate in the poison schedule required to be registered when sold. They also specifically enumerated "antiseptic tablets containing corrosive sublimate." It has been suggested that a type of corrosive mercuric tablets or pastils be introduced into the Pharmacopeia of the United States. The German Pharmacopeia has such a preparation of mercuric chlorid. The pastils are to be colored a bright red with anilin dye, must have a cylindrical shape and be twice as long as thick. They are to be wrapped individually in black paper bearing the German equivalent of the word "poison" in white letters. The weight of the tablets must be stated, and they must be dispensed in glass bottles or tubes. It is suggested that the inclusion of an official tablet of corrosive mercuric chlorid in the U. S. Pharmacopeia need not interfere with the established trade of manufacturers, and Wilbert suggests that if manufacturers would label their preparations so as to indicate the presence of highly toxic substances and suggest to purchasers the need for keeping them apart so that they would not be mistaken for other substances, then perhaps no additional legislation would be required on the subject. It is also suggested that newspapers should not publish the details of the kind of poison used in cases of accidents or intentional poisoning.

Coal-Mine Accidents in the United States.—Foreign countries in which mining is carried on extensively have had official statistics of coal-mine accidents for many years: Belgium since 1831, Great Britain since 1851, Germany since 1852, France since 1853 and Austria since 1875. Until 1912, no official figures as to coal-mine accidents in the United States were gathered by the United States government, but beginning with that year the federal Bureau of Mines has compiled the figures, and in Bulletin 69 a tabulated and classified statement of coal-mine accidents is given. It includes not only figures for 1912 as gathered by the Bureau of Mines, but also figures for years since 1896 as obtained from state mine inspectors, operators and other sources. A tabulated statement of the production of coal, number of men employed, number killed, etc., for the years 1896 to 1912 shows an almost steady rise in the number killed per thousand of men employed, from 2.84 in 1896 to 3.15 in 1912, with high points of 4.88 in 1907 and 4 in 1909, the highest figure, in 1907, being accounted for by four exceptionally disastrous mine explosions. This increase in the death-rate from accidents may be accounted for partially by the increase in the production of coal per man. In 1896, for instance, every man employed produced 2.64 tons of coal per day, whereas, in 1907 the daily production for each man was 3.06—an increase of 16 per cent. with its consequent greater risk. Stated in another way, however, it is shown by the table that in 1896, 170,000 short tons were produced for each death, while in 1912 the amount was 233,000 short tons. Though during all this time increased attention was given to mine safety and prevention of accidents, yet the rapid change in methods and the enormous increase in production were not accompanied by corresponding measures to decrease risk. In 1908, Congress authorized the United States Geological Survey to investigate the causes of mine explosions with a view to increasing safety in mining. The work was placed under the direction of the Bureau of Mines and in 1910 a separate bureau on mine safety work was established. Since 1908 there has been an annual decrease in the number of men killed per million tons of coal mined. The most marked improvement was in 1912, when the number of men killed was less than any other year since 1906, and the death-rate per million tons of coal mined was the lowest on record, and 359 men (13.2 per cent.) less than the figures for 1911, in spite of the fact that there were more men employed in the mines and more coal mined than in any previous year. The death-rate per thousand men employed in 1912 was 3.15, as against 3.73 the previous year. The improvement in later years has been brought about, as the bulletin states, by a combination of causes the principal of which has been more effective and more efficient mine inspection on the part of state mining departments and state mine inspectors, supplemented by greater care on the part of both the operators and the miners. Further improvement will depend largely on the care exercised by all those concerned in the coal-mining industry.

The Work of the Bureau of Child Hygiene.—In New York it is found that 36 per cent. of infant mortality occurs during the first month, and it has been concluded that the majority of the babies die because the mothers were physically unfit to bear healthy children or because of their ignorance of the proper care of their infants. The bureau, therefore, has established a center of instruction for nurses at one of the milk-stations, and the nurses have been assigned to canvass the neighborhoods and persuade expectant mothers to place themselves under medical care as early in pregnancy as possible. These cases are reported to the district doctors of the department of health, the mothers are instructed, in detail, with regard to diet, fresh air, exercise, clothing, etc., and they are impressed with the importance of nursing their infants. In normal cases, visits are made by the nurses every ten days before the birth of the children, every three days after for a month, and in abnormal cases as often as may be necessary. The mothers are then requested to enrol their children at the milk-station, at which they are cared for during the first and second years. Thus far 175 mothers have been enrolled, and twenty-five children have been cared for in this manner.

Public Health Work in Porto Rico.—W. W. King of the United States Public Health Service, in *Public Health Reports,* Dec. 12, 1913, makes a report of the work of the Institute of Tropical Medicine and Hygiene of Porto Rico, to Oct. 31, 1913. The institute was organized under the provisions of the legislative assembly of Porto Rico, for the purpose of studying tropical diseases incident to that island, and is the outcome of the control of that island by the United States, following the work of the medical corps under Dr. Bailey K. Ashford in hookworm disease. The plan of the institute for work in the islands comprised three months of teaching, instruction of sanitary officials, inspectors, etc., three months of expeditionary work in the interior of the mountainous districts and six months of work at the laboratory and hospital at San Juan, where the permanent headquarters are located. The expedition in the mountains was for the purpose of studying the diseases of the interior, the establishment of a rural outdoor medical service and the education of planters and laborers in elementary hygiene and sanitation. It has been estimated that from 50 to 70 per cent. of the population of the rural districts were in need of medical attention with practically none provided. The headquarters of the expedition is at Utuado on a large sugar plantation, where a well-equipped dispensary and hospital with thirty beds has been established. In order to induce the people to come to the dispensary established, arrangements were made for the treatment of hookworm cases which brought large numbers of the people to the dispensary. Other diseases of all sorts were then studied and treated among the 7,500 patients who presented themselves. Among the diseases of tropical nature studied were schistosomiasis and "la bonita," which is a name given by the country people to an affection whose chief symptom is anasarca. This disease is limited to the country districts and sometimes occurs epidemically. A nephritis seems to be the chief feature of the disease. Sprue, amebic dysentery, malaria and trachoma are among the other diseases studied.

Medicolegal

Representatives Who May Waive Privilege

(Oldenburg v. Leiberg (Mich.), 142 N. W. R. 1076)

The Supreme Court of Michigan says that the statute of that state, as amended in 1909, reads: "No person duly authorized to practice physic or surgery shall be allowed to disclose any information which he may have acquired in attending any patient, in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon: Provided, that after the decease of such patient, in a contest on the question of admitting the will of such patient to probate, the heirs at law of such patient, whether proponents or contestants of his will, shall be deemed to be personal representatives of such deceased patient for the purpose of waiving the privilege hereinbefore created." Assuming that heirs at law of a decedent are both contestants and proponents of the will, may the contesting heirs, or the proposing heirs, or either of them, waive the statute privilege of the deceased, the patient?

Before the statute was amended, it had been held by this court that information acquired by observation while the physician was in attendance on his patient, as well as communications made by the patient to the physician, was excluded, that the rule established by the statute is one of privilege, which the patient may waive, and that what he may do in his lifetime those who represented him may also do for the protection of the interests they claim under him, but that, in a will contest between a legatee and a contesting heir at law, the heir at law is not the representative of the deceased, and is an adverse party, with no right to waive the statute privilege.

This being the state of the law, the legislature amended the statute in the manner hereinbefore indicated, and the court holds, because it thinks no other ruling will give effect to all of the provisions of the amendment, that any heir at law, proposing or contesting the probate of a will, is, for the purpose of waiving the privilege, a personal representative of the deceased. With the wisdom of the legislation the court has nothing to do, and therefore does not attempt to contrast the alleged beneficial with the harmful results which may attend the application of the statute in cases which may be supposed.

Agreements to Split Fees Void as Against Public Policy—Cross-Examination—Including in Suit Fees for Assistant at Operation

(McNair vs. Parr (Mich.), 143 N. W. R. 42)

The Supreme Court of Michigan reverses a judgment recovered by the plaintiff for professional services in operating on the defendant for hernia and on his daughter for appendicitis, and grants a new trial. The court says that the defendant claimed, among other things, that at the time the causes of action arose there existed between the plaintiff and a Dr. Stuck, who was then the defendant's physician, an unlawful agreement and combination, by which the plaintiff and Dr. Stuck were to divide the fee which the defendant was to pay the plaintiff for the surgical operations and professional visits mentioned in the plaintiff's bill of particulars, which combination was unlawful and void, as contrary to public policy, and in violation of the statutes and common law of the state.

It was the claim of the defendant that Dr. Stuck could not be the agent of both of the parties to the suit, while he was at the same time assisting in these operations as the family physician of the defendant; that he could not draw pay from both parties, without the knowledge of all the facts by the defendant; that any tacit understanding or agreement between the two physicians of any division of the plaintiff's fees between them would be against public policy and void; and that the defendant had a right to show that the plaintiff had charged an unreasonable sum for his services, in order to divide his fees with Dr. Stuck. That such a contract is against public policy the defendant cited a number of Michigan cases, also 9 Cyc. 481, 482; 34 Cyc. 1430. The court is of the opinion that the cited authorities support the claim of the defendant, and that any agreement of the plaintiff to split his fees with Dr. Stuck, without the knowledge of the defendant, would be void as against public policy.

The court also thinks that too strict a rule was applied in the cross-examination of the plaintiff, to the prejudice of the defendant, when the latter sought to show a tacit understanding between the plaintiff and Dr. Stuck, growing out of their former practice in other similar cases, in the matter of a division of fees. Considerable latitude should be allowed in cross-examination when fraud is claimed.

There was error, too, in a refusal to charge the jury that they could not allow the plaintiff any money for the services of Dr. Stuck rendered at these operations. The plaintiff, after testifying that his bill was only for his personal work, changed his position and testified, in answer to a question by the court, that his bill included Dr. Stuck's bill. If the judgment rendered in the plaintiff's favor were to stand, the defendant might have to pay twice for the services of Dr. Stuck. That they were included in that judgment might be presumed under the charge of the court; but the value of such services did not appear. Dr. Stuck was not a party to or bound by that judgment, and might maintain a suit against the defendant for his services.

Liability of Surgeon of Charitable Institution for Leaving Spring from Packer in Uterus

(Wharton vs. Warner et al. (Wash.), 135 Pac. R. 235)

The Supreme Court of Washington directs that a judgment be entered against the defendant Warner for damages for malpractice. The court says that he was employed at a sanatorium as the surgeon in charge thereof, and that in the treatment of Mrs. Wharton, by a curettement of the uterus. he used a uterine packer, and a spring therefrom, some 12 inches in length, became detached from the machine and was packed into the uterus and allowed to remain therein for a period of fifteen days.

Passing to the law of the case, it may be announced as one of the fundamentals of the law that negligence is never presumed, but that it must be affirmatively established by competent evidence.

It is equally well settled that, when a physician and surgeon takes charge of a case, he impliedly represents that he possesses, and the law imposes on him the duty of possessing and exercising, reasonable skill and learning, that is, such skill and learning as is possessed by the ordinary practitioner in that general locality, measured by the state of medical and surgical science at the time the service is rendered.

Tested by these principles, there was abundant evidence of Dr. Warner's negligence. Indeed, it would excite surprise had the jury returned a different verdict. The jury was warranted in finding (*a*) that he was guilty of negligence in leaving the spring in the uterus; (*b*) that he was negligent in failing to discover and remove it; and (*c*) that the packer with which he performed the operation was not then used by surgeons possessing average learning and skill in that locality.

It was argued (1) that whether a surgical operation was unskilfully performed is a question of science, and is to be determined by the opinion evidence of surgeons, and (2), in effect, that a bad result standing alone is no evidence of unskilful surgery From these postulates it was argued that there was no evidence to sustain a verdict against this defendant Both propositions are sound when soundly applied The reason is that in most cases a layman can have no knowledge whether the proper medicine was administered or the proper surgical treatment given Whether a surgical operation was unskilfully or skilfully performed is a scientific question If, however, a surgeon should lose the instrument with which he operates in the incision which he makes in his patient, it would seem as a matter of common sense that scientific opinion could throw little light on the subject So, in this case when a surgeon loses a metallic spring about 12 inches in length, and about 1/16 of an inch in width, in the body of his patient, and fails to discover and remove it, it would seem that a jury would have abundant justification for inferring negligence without the aid of expert testimony But, putting this view aside, the court thinks that the evidence set forth was insufficient to support the verdict

But the medical missionary and benevolent society, organized *for charitable purposes only*, which conducted the sanatorium and which the evidence showed exercised reasonable care in selecting Dr Warner, could not be held responsible for his negligence The same rule applies when the plaintiff pays for the services rendered, where the amount received is not for private gain, but to accomplish more effectually the purposes for which the charity was founded

Manslaughter in Death from Unlawful Administration of Morphin to Alleviate Pain

(Silver vs State (Ga), 79 S E R 919)

The Court of Appeals of Georgia holds that when a person, in violation of the statute, administers morphin by means of a hypodermic syringe to another in such quantity as to cause death, he commits an unlawful act, and a conviction of involuntary manslaughter in the commission of an unlawful act would be authorized It is no defense that in the administration of the drug the intent was not to cause death, but to alleviate pain Whether or not the administration of morphin is an act evil in itself would, of course, largely depend on the amount and the circumstances under which it was administered Administration in small amounts and to alleviate pain might be construed as a beneficent act, but administration without this purpose, or to one who habitually uses it, might well be considered a wrongful act However this may be, under the Georgia statute the administration of morphin in any quantity or for any purpose, except under prescription as provided by the statute, is unlawful, and the penal code declares that "involuntary manslaughter shall consist in the killing of a human being without any intention to do so, but in the commission of an unlawful act" The administration of morphin without a prescription being unlawful under the state statute, it follows that when death ensues from such unlawful administration of morphin, the person so administering the morphin is guilty of involuntary manslaughter in the commission of an unlawful act

Presumption that One Is Not a Physician

(Miller vs State (Miss), 63 So R 269)

The Supreme Court of Mississippi, in affirming a judgment of conviction of the appellant Miller of unlawfully selling cocain, says that his complaint was that the state failed to prove that the person to whom the sale was made was not a regular licensed physician or dentist, and that the sale was not made on a physician's prescription If the sale was made on the prescription of a physician, that fact lay peculiarly within the knowledge of the defendant, and consequently, it devolved on him, and not on the state, to establish it

There was no direct evidence that the negro boy to whom the sale was made was not a physician or dentist, but the presumption was that he was neither, and therefore, if he was a physician or dentist, it devolved on the defendant to prove it The state withholds from the mass of the people the right to practice the professions of medicine and of dentistry, and grants it only to exceptional persons, of every one of whom it is certainly true that at one time he was not allowed to practice as such There was here, therefore, a double prima facie presumption first, that the person to whom this sale was made did not belong to the exceptional class of persons to whom the right to practice medicine or dentistry had been given, and, second, that as at one time he had no such right he has none now

Society Proceedings

COMING MEETINGS

American Medical Association Atlantic City, June 22 26

Missouri Valley Medical Association Lincoln, Neb, Mar 26 27

NATIONAL CONFERENCE ON RACE BETTERMENT

Held at Battle Creek, Mich, Jan 8 12, 1914

(Concluded from page 569)

The Negro Race

Mr Booker T Washington, Tuskegee, Ala · Few races in history have been subjected to so many sudden, violent and trying changes as has the American negro There was the transition from Africa to America, from free life to slave life, and then from slave life to free life Then there has been the change which a large proportion of the race has experienced of moving from the South into the North In spite of all these changes the negro has lived and is living and intends to live The white race must be a little patient with the negro, because he is trying to readjust himself to all the physical, industrial, social and moral conditions The negro is worth saving In order to be most helpful to it, the white race should try to keep most of the negro race in the country districts, out of contact with large, complex city life The next thing is to keep whisky away from my race I have observed the effect of the use of liquor on my people, and I have no hesitation in saying that it should be kept from them I would also ask you to use your influence to keep patent medicines away from my race These three things will help my race The two races are going to stay in this country, we are going to help or hinder you, and we wish you to help us to get to the point where we can help you

Community Hygiene

Rev Caroline Bartlett Crane Kalamazoo, Mich No community lives unto itself Community hygiene may depend in no small part on the neighboring but unneighborly community A proper division of the function and proper functioning in each division of public health work is of vital concern to every community Each community must not only do its own part, but must also maintain a partnership with other communities under the supervision of the state which granted the municipal corporation all the rights and privileges which it possesses, and which may naturally be looked to to maintain cooperation between these corporations And states may naturally expect the national government to act strongly in behalf of the general welfare

The Health Certificate—A Safeguard Against Vicious Selection in Marriage

Dean Walter T Sumner, Chicago · We guard our business with a great deal of care If a group of men desire to form a partnership they must secure permission from the legislature, if a man or a group of men desire to carry on a municipal trade they must secure a license, if a man in the city of Chicago desires to carry on only an insignificant street trade he must vouch for his responsibility at the city hall If this same man desires to marry he goes down to the city hall alone and gets a license. He may be a degenerate or an epileptic, or the diseases of the social evil may be coursing through his veins. These people are allowed to marry and propagate their kind, and to pass on to succeeding generations the physical, mental and moral deficiencies which they possess. We are giving much time and attention to the question of environment. We should give much attention to nurture. In face of the fact that we safeguard marriage or selection in marriage by no laws and by no public attention, is it strange that we have in our public institutions three million abnormal people, costing this nation two hundred million dollars a year for their care, and that they are increasing far and beyond the proportion of the increase of the population in this country, large as that increase is? The demand for a health certificate before marriage will come about by legislation, and this is effective just as it is backed up by public opinion. Public opinion to-day is not well informed with regard to the need of safeguarding marriage selection. Education of the public is the great hope, and the greatest agent for education in this country to-day is the press.

The Relation of Physical Education to Race Betterment

Dr. D. A. Sargent, Cambridge, Mass.: In nearly all the countries of the world there is a steady decline in the birth-rate. The most prosperous communities, even in our own country, are not reproducing a native population equal to the death-rate, and in some of the towns of New England the death-rate actually exceeds the birth-rate. If it were not for the influx of foreigners and those born in rural communities our great towns and cities would soon be depopulated. Some of the causes of this are: (1) poverty and inability to support a family of children; (2) luxurious living and the indisposition to take on the cares and responsibilities of reproduction; (3) living in apartments and communities where children are often regarded as a nuisance; (4) the preoccupation of both sexes with professional work; (5) love of ease, sports and amusements and the selfish gratification of all the senses; (6) inability from lack of health, or the possession of a bad inheritance. Physical education can bring the hereditary weakling up to par. An increasing number of the better classes in America are awakening to the importance of having more children and giving them a physical as well as mental training.

Factory Degeneration

Rev. Newell Dwight Hillis, Brooklyn: The recognition of the deterioration of our factory people has been recognized for many years. The cure rests on the reform of industrial conditions. It all rests with the woman who can rear a healthy baby. The only cure for the factory-class degeneration in this or any other country is rebuilding of factory-class civilization.

The High Cost of Living As a Factor in Race Degeneracy

Dr. J. N. Hurty, Indianapolis: The high cost of living has a bearing on race degeneracy. If we could raise the price of diseased meats and whisky so high that they could not be bought, that would be an advantage. We place too much faith on the doctor and on medicine. We think that medicine can undo the wrong that we have done the body. It can only repair. It cannot remedy or remake. We must have medicine, but we must view it from a different angle. We are obsessed with the idea of cure. To eradicate from men's minds the idea that they ever can experience perfect cure after disease or injury would do a great deal of good. When we attempt to tell people that they must not get sick, and that getting sick is weakness, they go to the next doctor, who will give them a drop of medicine. Let us get away from that idea.

Tobacco a Race Poison

Dr. Daniel Lichty, Rockford, Ill.: Tobacco is a narcotic poison; every part of the plant is poisonous, and only a few poisonous plants excel it in deadliness. Eighty per cent. of the adolescent and adult male population are enamored of its potency. Man by the excessive use of tobacco makes himself a member of the human scrap-heap. Narcotic indulgence means race degeneration. Tobacco-using is drug slavery. Tobacco, alcohol and syphilis leave the same scar on progeny.

Some Suggestions for a More Rational Solution of the Tuberculosis Problem in the United States

Dr. S. Adolphus Knopf, New York: In spite of all efforts, 200,000 people are dying annually from tuberculosis in the United States. Of these, fifty thousand are tuberculous children. Estimating the average age of these fifty thousand children dying annually from tuberculosis at about 7½ years, and figuring the cost to parents and the community for each life as only $200 per annum, the financial loss thus represented is $75,000,000. These children have died before they have been able to give any return to their parents and the community. Twenty million children attend public schools in the United States, of whom 600,000 are in need of open-air instruction or sanatorium treatment. We can at present provide for about 2,000 of these tuberculous children.

The 150,000 adults who die annually of tuberculosis have been incapacitated for at least two years. At $1,000 per year, this would mean $300,000,000 uselessly spent in caring for people afflicted with a disease that might be prevented. Unless we make the cure of the disease lasting by judicious after-care, the money spent for sanatorium maintenance is a loss.

There should be a sufficient number of public parks and playgrounds in our great cities to counteract congestion and reduce it to a minimum. Medical schools should give special courses in the early diagnosis of tuberculosis. The man advertising fake consumption-cures should be treated as a dangerous criminal, for such he is. There should be state insurance against tuberculosis. The influx of tuberculous immigrants liable to become a burden to the community should be prevented by compelling all steamship companies to assure a clean bill of health for every immigrant brought to these shores, and to insure every immigrant against tuberculosis. Procreation of the tuberculous should be prohibited by law and the prevention of it taught to every tuberculous adult. Predisposing factors to tuberculosis, such as child labor, sweat-shop labor, too long working hours for both men and women, and bad housing conditions in tenements, apartments, lodging-houses and hotels in city and country must be combated by rational laws and their strictest enforcement. The same rigor should be applied to laws concerning proper ventilation and sanitation in workshops, factories, stores and public conveyances.

The Importance of Frequent and Thorough Medical Examination of the Well

Dr. Victor C. Vaughan, Ann Arbor, Mich.: Our country has a population of nearly one hundred millions. Millions of these are decent, respectable citizens—not altogether wise, but for the most part well-informed. Thousands are brutal in their instincts, criminal in their pursuits, and breeders of their kind. We assert that we are civilized, but there are those among us who would be stoned to death within less than twenty-four hours were they to attempt to live in a savage tribe. Decay and death come with advancing years. Those possessed of strength and health must bear the burden of those afflicted with poor health. The world has seen what has been done in Havana and the Canal Zone, where the most pestilential spots have been converted into healthful habitations. Scientific investigation has made these demonstrations, and the world applauds, but seems slow to make general application of the rules of hygiene. I look forward with confidence to the time when preventable diseases will be prevented, and when curable diseases will be detected and treated while curable.

The Effect of Alcohol on Longevity

Mr. Arthur Hunter, New York: Alcohol in moderate quantities is a food, but a very dangerous food. Even small doses of alcohol have a detrimental effect on muscular power. There is little doubt of the degenerating influence on the mental processes produced by alcohol, even in small quantities. The true way to determine the effect of alcohol is to find out how lives are shortened by the use of it. The insurance companies are completing an enormous investigation involving something like two million lives, to obtain information to enable them to elect risks with greater care, and also to charge extra premiums This investigation is being carried on by forty three life insurance companies In order to determine the effect of alcohol we must have some standard of measurement

Alcohol—What Shall We Do About It?

Dr **Henry Smith Williams**, New York I have no objection to alcohol as such—it has almost the formula of sugar But what I object to is its effects on the brain, mind and morals of the people The greatest dangers of alcohol are to the adolescent, and we should make it as nearly impossible as we can for the youth to secure it

Effect of Philanthropy and Medicine on Race Progress

Mr **Leon J Cole**, Madison, Wis The laws of heredity that are operative in the lower animals are also operative in man Which is the more important—environment or heredity? Biologists agree that results which are the effect entirely of environment are not inherited, but other conditions, environmental conditions, may affect the germ plasm What we mean by saying that environmental conditions are not inherited is that they are not inherited in any specific sense It has long been believed by the medical man that alcohol has directly a deleterious effect on the offspring Recent experiments have shown that alcohol, lead and certain other poisons may directly affect animals so that their germ cells are weakened This is not a specific inheritance It is simply a weakening of the germ plasm It is possible that other toxins, the toxins of certain diseases, may have a similar effect on the germ plasm, but I wish to emphasize the certain fact that this is not a specific effect It is a general deteriorating effect on the germ plasm, and as a result of it defective animals are born, which is also probably the case in man It is the work of the biologist and medical man to learn of the method of inheritance of these things, and of the method of control, and, finally, I think that mankind is going to accept those things which are easiest and compatible with ideals These methods cannot go contrary to ideals Medicine must go ahead in the course that it has, and charity must go ahead in the course that it has, but in both these lines we must have an eye to the future In later years medical science has turned its attention so much toward preserving life that it has given very little thought as to what it was doing to the race as a whole

The Function of the Dentist in Race Betterment

Dr **C N Johnson**, Chicago To better the race, we must better the individual by adding to his physical, mental and moral efficiency The condition of the teeth has much to do with the health of the individual A poorly nourished body must result in inefficiency, the result of decayed teeth is inefficient mastication, without mastication we cannot have good digestion, without digestion we cannot have assimilation, and without assimilation we cannot have nourishment It may seem a far cry from defective teeth to delinquency, but it is a logical sequence There is a very real danger to the individual and the community as the result of defective teeth and broken down roots left in the jaws Ninety per cent of schoolchildren have decayed teeth Our boards of health should give attention to this

Public Repression of the Social Evil

Mr **Graham Taylor**, Chicago We can estimate the magnitude of the social evil from the diseases which come directly from it into our hospitals, in hospitals for the blind, in institutions for the feeble minded, in infirmaries and insane asylums, and that gruesome, never ending procession of delinquents through our police stations and courts We can estimate the financial investment in commercialized vice, the forms those investments take, the profits that are made, the blackmail that is levied, the bribery of public officials, which is well known, mounting up into millions in our large cities But the half is never told

Segregation

Dr **Hastings H Hart**, New York Thousands of the insane are put into jail to "protect the community from danger"—but not one in ten is dangerous More than half the children coming into reformatories are in need of medical or surgical treatment It is less than six years ago that an investigation of the Lancaster School showed that probably 28 per cent of all the girls there were subnormal That led to an examination of other similar institutions, and now the fact is generally accepted that in our prisons and reformatories at least 25 per cent of the inmates are defectives, among our juveniles from 25 to 50 per cent, and in one institution where a psychologist was employed to examine the girls, 65 per cent were feeble minded These girls do not need reformatory treatment They need to be out in the open, have fresh air, have recreation, have a good time There are a multitude of feeble minded in the hospitals for the insane, and we are spending 50 per cent more for their care than necessary We no longer build asylums for the deaf and blind, but we build schools for them and educate them to become self supporting citizens The most important care of the community is the custodial care of the feeble minded girl who is perpetuating and multiplying her kind, and she is twice as prolific as the normal woman All the insane are being taken care of, but not the feeble minded, and the latter are twice as dangerous I do not know of any one who is more deserving of care than these girls of 16, 17 and 18, who have the mind of children of 7 or 8 and the body of women, who are pursued and hunted down and destroyed like rabbits

Relation of Eugenics and Euthenics to Race Betterment

Dr **Richard M Metcalf**, Oberlin, Ohio We must promote the gathering and safe filing of human inheritance records, which in the future will serve as the foundation of such practice of eugenics as shall prove wise and practical Among the great needs must be recognized scientific study of the principles of inheritance Marriage of certain individuals is unsatisfactory To what extent the state can intervene to prevent such marriage is a question which needs careful study

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Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

Albany (N Y) Medical Annals

February, XXVI, No 2, pp 49 114

1 Tuberculosis Sanatorium as Department of General Hospital and Its Educational Responsibilities E Corning Albany
2 Study of Therapeutic Effects of Thermo Penetration in Treatment of Phthisis Pulmonalis H Van Rensselaer, Albany
3 *Use of Scarlet Red in Treatment of Tuberculous Laryngitis E Corning Albany
4 Treatment of Tuberculous Laryngitis with Scarlet Red E E Hinman, Albany
5 Pneumothorax, with Report of Three Cases M Douglas Albany
6 Albumin Reaction in Sputum of 228 Cases of Pulmonary Tuberculosis E Corning Albany
7 Treatment of Night Sweats W M Adams Albany
8 Weight Records of First One Hundred Nurses at Albany Hospital Tuberculosis Sanatorium L Corning, Albany

3 **Scarlet Red for Tuberculous Laryngitis**—Hinman uses an ointment, whose base is equal parts of sesame oil and petrolatum, with a dye strength of 10 per cent, and this is applied twice daily to the larynx The drug is said not to be irritating and the applications are not distressing Thus far he has not observed anything of a toxic nature, or, in fact, any untoward symptoms The first and most surprising result obtained was a very prompt relief of pain This was noted in every case in which pain had been present It was reduced in all cases and in some entirely relieved, so that patients were able to eat and drink with comfort In all cases but two, both of which were far advanced before treatment was instituted, and both patients dying very soon after, ulcerations showed a tendency to heal The general laryngeal congestion of several cases soon subsided and the hoarseness improved A few patients presented only infiltrations and

edema. After a few weeks of this treatment with scarlet red the swelling grew markedly less.

Hinman directs attention to the fact that they were the more incipient cases and that they improved generally during this time and therefore the local improvement may have been as much due to the general betterment as to the local effect of the dye, but it is reported because it is very possible that this drug may be shown to have some selective action through the unbroken mucous membrane. As yet all of Hinman's investigations and observations have been from the clinical standpoint and therefore the pathologic findings are not reported. Two patients who presented extensive ulcerative lesions of the larynx when they were admitted have since died. In one there was a decided lessening of pain and some improvement in the ulceration prior to his death, the other patient died shortly after beginning treatment, before results could be expected.

American Journal of Anatomy, Philadelphia

January, XV, No. 4, pp. 389-516

9 Development of Cytoplasmic Constituents of Nerve Cells of Chick. E. V. Cowdry, Baltimore.
10 Feeding Experiments on Tadpoles. J. F. Gudernatsch, New York.
11 Origin and Early History of Primordial Germ-Cells in Chick. C. H. Swift, Chicago.

American Journal of Diseases of Children, Chicago

February, VII, No. 2, pp. 97-168

12 *Bacteriologic Diagnosis and Treatment of Alimentary Disease in Infant and Child. R. Vincent, London, Eng.
13 Pellagra in Early Childhood. W. Weston, Columbia, S. C.
14 Spasmophilia with Special Reference to Familial Reaction and Repeated Absences: Report of Sixteen Cases. J. P. Sedgwick, Minneapolis, Minn.
15 *Value of Blood Picture in Early Diagnosis of Measles, Especially in Relation to Question of Isolation. W. P. Lucas, San Francisco.

12. **Alimentary Disease.**—Vincent is convinced that by means of the bacteriologic examination of infants' stools he has arrived at a means of diagnosis which in respect to accuracy and precision is far superior to any other means. While the direct microscopic examination is most important and should never be omitted, it is not solely relied on. For the complete examination Vincent requires to determine the organisms that are dominant, by observing which of them appear when a portion of the dejection is transferred by means of the platinum loop to sterilized milk. Milk is the chief culture medium systematically employed.

Quite apart from specific treatment, the bacteriologic diagnosis influences the conduct of the case. In dealing with an intestinal condition due to dominance of the acid-forming organisms, the first line of treatment is the exclusion of all diet calculated to assist the lactic organisms. Raw milk must be forbidden. Cooked milk with the lactose reduced to a minimum amount is indicated. In such cases a reasonable amount of fat and a considerable amount of protein in the shape of caseinogen may be given. If this be given in the shape of milk the lactose may still be too much, and one may therefore employ a precipitated casein. In these cases chalk may be useful in contending with the excessive acid, and opium in minute amounts in the case of the young infant may be useful in calming the irritated intestine.

A favorite preliminary treatment in these cases at the Infants' Hospital is albumin water made with normal saline, termed "saline albumin." With this are combined a few teaspoonfuls of a diluted meat extract, while small doses of brandy are given at intervals. Opium is also given in small doses. Very gradually a normal milk diet is introduced, but throughout the treatment the dietetic and medicinal treatment is constantly checked by examination of the dejections. The precise treatment of the conditions arising from dominance of the colon organisms depends a great deal on the age of the infant. In the young infant—under 6 months, and particularly under 4 months—the intestinal conditions are rather apt to undergo very rapid changes. In a moderate case of colon toxemia where the constitutional symptoms are not severe, it is a mistake to undertake too active treatment with a view to the rapid suppression of the dominant organisms. As a rule treatment with cultures of the lactic organism is not indicated. It is better to adopt measures favoring the gradual development of the lactic organisms by dietetic management than by the administration of pure cultures. If the case is obstinate and the colon dominance persists despite the administration of raw milk containing a good proportion of lactose, then the administration of cultures is indicated. According to Vincent's observations, children fed on boiled milk are more liable to contract tuberculosis, and especially the more serious forms of tuberculosis, than children fed on raw milk, and he believes the reason for this is the chronic toxemia resulting from the proteolytic action of the colon bacilli.

15. **Measles.**—A further examination of measles patients has confirmed Lucas in the belief that there is an early change in the blood picture which may be taken as the first evidence of the infection. This consists in a change from the ordinary lymphocytic predominance which exists normally in infants' blood, to a relative increase in the percentage count of the neutrophilic type of cell. Though there is an actual diminution, here also the diminution in the lymphocytes far exceeds that of the neutrophils, so that there is a complete reversal of the blood picture. The normal percentage of lymphocytes in infants' blood ranges from about 55 to 70 per cent. of the white blood-cells; whereas the neutrophils range from about 25 to 30 per cent., the large mononuclear cells ranging from about 8 to 15. The earliest sign which appears in the blood of an infant coming down with measles is a beginning reversal of this picture. The reversal usually begins about a week before any visible symptoms of infection occur. The actual reversal has occurred at least forty-eight hours before the earliest signs are visible, that is, Koplik spots, coryza or coughing. There is also a definite constant leukopenia present which sometimes appears eight days before the physical signs. and sometimes appears simultaneously with the physical signs. For this reason it is not so reliable a diagnostic method as the cell picture, which is far more constant and reliable as a determining factor in making an early diagnosis.

There also appears an ever increasing number of disintegrated cells, which first make their appearance about the time the cell picture begins to change. These disintegrated cells may not be specific, and probably are not specific in measles; but with the reversal of the blood picture, they are to be counted as a definite factor in the early diagnosis. They appear to be in many instances large, swollen cells, with protoplasm breaking up, and the nucleus, as it were, waterlogged or breaking up into fragments. The shape varies from round to oval, with no sharply defined outline. Granulations are abundant, and they can be seen separating from the nuclei.

American Journal of Tropical Diseases and Preventive Medicine, New Orleans

January, I, No. 7, pp. 489-538

16 *Human Trypanosomiasis: Case Observed in Baltimore. J. A. Chatard and C. G. Guthrie, Baltimore.
17 Influence of Water-Borne Disease on Mortality of Children. A. J. McLaughlin, Washington, D. C.
18 Outlook for Dementia Praecox: Plaintiff's Plea. B. Holmes, Chicago.
19 Case of Long-Standing Amebic Abscess of Liver and Lung. A. Eustis, New Orleans.

16. **Human Trypanosomiasis.**—The patient was seen by Chatard and Guthrie during a relapse, when he presented practically the same symptoms as in his initial attack. The most pronounced symptom was depression, which was in marked contrast to the euphoric state present for a time after the administration of salvarsan. It is interesting that three of the signs most commonly present were absent in this case, namely, auto-agglutination of the red blood-cells, circinate erythema and deep hyperesthesia (Kerandel's sign). The findings on examination of the blood, cerebrospinal fluid and gland juice, as confirmed by the results of animal inoculation, are in accord with the observations of Todd and others as to the relative value of these diagnostic methods. The case is instructive in that treatment for nineteen weeks in the early stage of the infection sufficed to render the patient

practically, or entirely, free from symptoms referable to the disease over a period of three years, but at the end of that time there was a relapse. The improvement apparent after a single dose of salvarsan was very striking. The fact that trypanosomes could not be demonstrated in the patient's blood, even by inoculation of susceptible animals, made Chatard and Guthrie feel that the danger from this source was minimal. Practically, the experience with imported cases elsewhere has shown that the disease is self-limited in the absence of the intermediate host.

Boston Medical and Surgical Journal

February 5, CLXX, No. 5, pp. 185-220

20 Program of Practical Measures for Mental Hygiene Work. H. R. Stedman, Brookline, Mass.
21 Control of Chest Percussion by Means of Roentgen Ray. G. C. Shattuck, Boston.
22 Relation of Foot and Leg Muscles to Statics of Body. C. L. Lowman, Los Angeles.
23 Chronic Malarial Cachexia and Its Relation to Neurasthenoid Conditions. C. Pope, Louisville.
24 Case for Radium Therapy. S. Delano, Boston.
25 Study of Cancer. S. W. Little, Rochester, N. Y.

Bulletin of Johns Hopkins Hospital, Baltimore

February, XXV, No. 276, pp. 33-68

26 *Intestinal Obstruction: Formation and Absorption of Toxin. D. M. Davis, Baltimore.
27 *Natural Immunity of Animals Against Poison of Intestinal Obstruction. D. M. Davis and H. S. Morgan, Baltimore.
28 Niels Stensen. W. S. Miller, Madison, Wis.
29 Brief Historical Sketch of Some Early Studies of Finer Structure of Plant and Animal Tissues. R. M. Pearce, Philadelphia.
30 *Early History of Care and Treatment of Cripples.* D. C. McMurtrie, New York.

26. **Intestinal Obstruction.**—Davis claims that the duodenal and upper jejunal mucosa, unaided by bacterial action, and in *conditions not far removed from normal, can produce a highly* toxic substance, and that although phenolsulphonephthalein is readily absorbed by the normal mucosa of the small intestine, this toxic substance is not. In closed loops one deals with a mucosa which displayes nothing more than a slight hyperemia, sometimes not even that. Injuries from handling are negligible, and absence of normal secretions from above is readily excluded as a cause of the mischief. Loop contents themselves in concentrated form will not stimulate absorption of toxin from the lumen in a freshly made loop. It seems clear, then, that some condition existing in closed loops causes slight but important functional changes in the mucosa, resulting in fatal toxemia. In obstruction and closed loops, a subtle change takes place in the mucosa—nothing is seen with the microscope, yet the cells in some manner discharge, or allow to be discharged, the fatal toxin into the blood. Davis has found it impossible up to the present to demonstrate any increased permeability of the mucosa to the toxic substance.

27. **Natural Immunity of Animals against Poison of Intestinal Obstruction.**—To Davis and Morgan, their experiments remain rather inconclusive. But, they state, it is safe to say that closed loop toxin cannot readily be neutralized by autolysates of normal cat organs, as it can by autolysates of immune dog organs. They advise that great care must be exercised in interpreting the results obtained by introducing supposedly toxic intestinal material into animals of various species. Cats will survive two to six days after the production of closed duodenal loops, often dying of peritonitis. The contents of these loops after heating and filtration, will kill dogs, when injected intravenously, with the same symptoms and anatomic picture seen when dog loop contents are used. Cats are resistant to this toxic material, withstanding with ease doses of over twice as much per gram of body weight, as is necessary to kill dogs. Efforts to neutralize the toxin of duodenal loop contents by incubation with cat organ extracts, cat blood and cat serum, have been unsuccessful. Rabbits and guinea-pigs are much less suitable for testing the toxicity of intestinal fluids than dogs, owing to their great susceptibility to hurtful influences of all sorts. Cats are also less suitable for the same purpose than dogs owing to their high natural immunity against closed loop toxin.

Iowa State Medical Society Journal, Washington

January, III, No. 7, pp. 411-466

31 Method of Tonsillectomy by Means of Alveolar Eminence of Mandible. C. A. Gundelach, St. Louis.
32 Contracted Pelves in Obstetrics. J. R. Condon, Des Moines.
33 Significance of Heart Murmurs. J. R. Walker, Ft. Madison.
34 High Blood-Pressure. W. H. Rendleman, Davenport.
35 Vaccine and Serum Therapy. J. W. Shuman, Sioux City.
36 Fractures in Children. L. Schooler, Des Moines.

Journal of Biological Chemistry, Baltimore

February, XVII, No. 1, pp. 1-98

37 Researches on Purines. C. O. Johns, New Haven, Conn.
38 *Protozoan Protoplasm as Indicator of Pathologic Changes. III. In Fatigue. F. P. Underhill and L. L. Woodruff, New Haven, Conn.
39 *Cholesterol Content of Cancers in Rats. C. B. Bennett, San Francisco.
40 *Determination of Creatine in Muscle. L. Baumann, Iowa City, Ia.
41 *Absence of Sugar in Urine after Pancreatectomy in Pregnant* Dogs Near Term. A. J. Carlson, J. S. Orr and W. S. Jones, Chicago.
42 *Influence of Pregnancy and Castration on Iodin and Phosphorus Metabolism of Thyroid. F. Fenger, Chicago.
43 Resolution of Inactive Uramido-Acids and Hydantoins into *Active Components and Their Conversion into Amino-Acids.* H. D. Dakin and H. W. Dudley, New York.
44 Metabolism of Endogenous and Exogenous Purines in Monkey. A. Hunter and M. H. Givens, Ithaca, N. Y.
45 Nitrogen Excretion of Monkey. A. Hunter and M. H. Givens, Ithaca, N. Y.
46 Relative Intolerance of Sheep to Subcutaneous Administration of Glucose. A. Hunter and R. L. Hill, Ithaca, N. Y.
47 Determination of Creatinine and Creatine in Muscle. V. C. Myers and M. S. Fine, New York.
48 Partial Enzymatic Hydrolysis of Yeast Nucleic Acid. W. Jones and A. E. Richards, Baltimore.
49 Osmotic Properties of Adductor Muscle of Clam—Venus Mercenaria. E. B. Meigs, Philadelphia.

38. **Fatigue and Growth.**—The authors found that extracts prepared from fatigued muscles produce no change in the division rate of Paramecium as compared with that obtained with extracts of normal muscles. Inasmuch as it has been demonstrated that paramecia are capable of detecting chemical changes, for example, in nephritis and in carcinoma, they believe it is justifiable to conclude that the character of the chemical changes occurring in fatigued muscle must differ only slightly from the normal.

39. **Cholesterol Content of Cancers in Rats.**—The strain of cancer used by Bennett was the Flexner-Jobling rat carcinoma. The cholesterol was not injected into the cancers, but was placed subcutaneously in the other side of the animals. Each rat received, repeatedly, 1 c.c. of a 2 per cent. solution of cholesterol in sodium oleate. Nine or ten injections were made during a period of about three weeks. It was soon found that a direct comparison between the injected and uninjected rats was impossible owing to the fact that there was considerable individual variation among those treated exactly alike.

The following deductions, however, seem to Bennett to be indicated by the findings: (1) The injection of cholesterol into rats does not very markedly affect the cholesterol content per gram of cancer tissue. (2) The cholesterol content of cancers increases with the age of the cancers, a fact of some interest when it is remembered that Wacker found the same thing true for normal tissues. (3) The outside, or actively growing part of the cancer, contains less cholesterol than the central portion. (4) If two cancers are of the same age, that one which is very markedly the smaller is apt to contain more cholesterol per gram of tissue, probably because it contains much less actively growing tissue.

40. **Determination of Creatin in Muscle.**—The method proposed by Baumann is carried out as follows: 50 gm. of hashed muscle are weighed into a round-bottom, short-necked Jena flask; to this 125 c.c. of fifth-normal sulphuric acid, and a few chips of unglazed porcelain are added and the whole boiled for three hours under a reflux condenser. At the end of this time the muscle is disintegrated. The solution is now filtered quantitatively through a 15-cm. filter paper into a 250-c.c. volumetric flask, the residue (less than 2 grains of dry material) is washed thoroughly with distilled water, the fluid is cooled and the flask filled to the mark. Twenty cubic centimeters of the claret-colored extract are

pipetted into a small porcelain dish (8.5 cm. in diameter) and 18 c.c. of 10 per cent. sodium hydrate are added while stirring. The partially neutralized fluid is then evaporated on the water bath to about 10 c.c. and transferred quantitatively to a 50-c.c. volumetric flask containing 30 c.c. of saturated aqueous picric-acid solution (the solid particles adhering to the sides of the dish are of no consequence provided the washing has been thorough). The flask is filled to the mark with distilled water when its contents have reached the proper temperature, shaken vigorously, then filtered through a dry filter-paper.

To 25 c.c. of the clear filtrate 6 c.c. of the 10 per cent. sodium hydrate are added and the creatinin determined colorimetrically according to Folin, allowing ten minutes for the color to develop. The standard is a creatinin solution containing about 7 mg. of creatinin per 10 c.c. of solution. It may easily be prepared by heating pure anhydrous creatin (about 80 mg.) with 50 c.c. of fifth-normal sulphuric acid for three hours under a reflux condenser, then diluting at once in a volumetric flask to 100 c.c. The titer of this solution remains constant for months.

42. **Iodin and Phosphorus Content of Thyroid.**—While female animals contain more thyroid tissue and iodin in thyroid combination per unit of body weight than male animals, Fenger says that there is no apparent difference in size and physiologic activity between glands from pregnant and non-pregnant female animals, and the increased iodin metabolism of the fetal glands, both male and female, seems therefore to be independent of the maternal glands, having in common only the source of the iodin. Castrated males contain less thyroid tissue than either uncastrated males or females, but the iodin content per unit of body weight is about half way between the uncastrated male and female animals. The phosphorus content of the thyroid seems to be fairly uniform in all four cases and should only be considered an indication of normal physiologic activity. The garlic-like odor observed in all four lots of glands is due directly to the comparatively large amounts of iodin present and furnishes evidence of a chemical reaction specific to the thyroid and resulting in an organic complex possessing the characteristic odor of oxidizing phosphorus. The odor was observed before the death of the animals, indicating that the reaction actually takes place during life.

Journal of Cutaneous Diseases, New York

January, XXXII, No. 1, pp. 1-110

50 Anatomy of Patch of Seborrheic Keratosis. D. W. Montgomery, San Francisco.
51 Classification and Description of Cutaneous Epitheliomas. J. E. R. McDonagh, London.
52 Case of "Ringworm Yaws" in Barbadian Negro. H. C. Clark, Ancon, C. Z.
53 Histologic Studies in Some Types of Skin Tuberculosis. J. A. Fordyce, New York.
54 Arthropathy in Secondary Syphilis. U. J. Wile, Ann Arbor.

Journal of Experimental Medicine, New York

February, XIX, No. 2, pp. 129-222

55 Behavior of Elastic Tissue in Post-Fetal Occlusion and Obliteration of *Ductus Arteriosus (Botalli)* in Sus Scrofa. J. P. Schaeffer, New Haven.
56 *Survival and Transplantability of Adult Mammalian Tissue in Simple Plasma. A. J. Walton, London.
57 *Intestinal Obstruction: Defensive Mechanism of Immunized Animal Against Duodenal Loop Poison. G. H. Whipple, H. B. Stone and B. M. Bernheim, Baltimore.
58 Idem: Mechanism of Absorption from Mucosa of Closed Duodenal Loops. G. H. Whipple, H. B. Stone and B. M. Bernheim, Baltimore.
59 Studies in Tissue Specificity: Ultimate Fate of Mammalian Tissue Implanted in Chick Embryo. Jas. B. Murphy, New York.
60 *Function of Spleen in Experimental Infection of Albino Mice with Bacillus Tuberculosis. P. A. Lewis and A. G. Margot, Philadelphia.
61 Epidemiology of Poliomyelitis. S. Flexner, P. F. Clark and H. L. Amoss, New York.
62 *Etiology of Epidemic Poliomyelitis. H. L. Amoss, New York.
63 *Intraspinous Infection in Experimental Poliomyelitis. P. F. Clark and H. L. Amoss, New York.

56. **Adult Mammalian Tissue in Simple Plasma.**—The total number of cultures made by Walton in the present investigation was 147. Of these 115 showed growth in the first culture, the remainder probably having died owing to some technical error, as they were mostly isolated specimens in a series of six made from the same tissue and under identical conditions. Of thyroid 13 cultures were made, being taken in groups of 6, 3 and 4 from different animals on different dates. Of these 13 cultures only 9 grew, but these when subcultured continued to grow until the third or fourth generation. The specimens from the first animal grew well until the tenth generation, but after this they died suddenly. Of spleen, 68 cultures were made from 12 different animals, being taken in 10 groups of 6 each, 2 groups of 3 and 1 of 2. In all cases growth was present in the first culture, the growing cells being mainly round and wandering cells. After the first transference 34 only showed signs of growth. Of the 43 resulting cultures of the third generation 18 alone showed growth.

In the fourth generation only four pieces of tissue showed evidence of growth, and in all cases this was very slight. Of testicle, 18 cultures were made. Growth occurred in 14 in the first culture. In the second generation the cells grew well and as usual more rapidly and extensively than in the first culture. For the third culture growth had become so marked that seven pieces were divided into two, resulting in 16 cultures of the third generation. Of these only 8 grew, but they showed extensive and rapid outgrowth of cells.

Of kidney 32 cultures were made. Of these only 15 showed growth in the first culture. In the second generation 11 showed growth. The 11 growing tissues were subcultured, but growth took place only in 3. In no case was growth obtained in the fourth generation. Of liver 14 cultures were made. In 9 of these there was active growth. In the second generation evidence of commencing growth was seen in three specimens after twenty-four hours. In the other 6 there was no evidence of growth. In 1 case only in the 3 specimens of the third generation was any growth observed, and this was only slight.

57. **Intestinal Obstruction.**—The series of experiments reported by the authors, they believe, provided conclusive evidence that a definite intoxication occurs in animals with closed loops, and that the intoxication is due to absorption of the loop poison. There are good reasons for believing that the intoxication seen in cats and dogs with intestinal loops and in human intestinal obstruction is due to the same poison or a similar one. It is noteworthy that a dog recovering from simple obstruction showed little evidence of intoxication when a closed duodenal loop was established.

Other evidence will be brought forward later by the authors to show that dogs with simple intestinal obstruction begin to acquire a certain immunity to the intoxication which will protect them against a closed-loop intoxication or the intravenous injection of duodenal loop fluid. They hold that the poison is elaborated by the mucosa, for when the mucosa is destroyed no poison is formed. They feel that their experiments give adequate basis for the belief that intoxication is the essential factor in intestinal obstruction or in the closed duodenal loop complex, and that the intoxication in the two conditions is similar if not identical, and the perverted activity of the mucosa, not an anatomic injury, is responsible for the formation of the poison. The cells and organ extracts of immunized animals can destroy the duodenal loop poison which is so resistant to simple digestion. The destruction *in vitro* during autolysis is quite rapid and the resultant material is non-toxic.

The possibility that this immune tissue juice might be potent when given intravenously at once suggests itself. The authors admit that it is possible that the immune organ extract may destroy the poison *in vivo* and help to tide the animal over a period of acute intoxication. This point is being investigated at present.

60. **Function of Spleen in Experimental Infection.**—Infection of rats and mice with *Bacillus tuberculosis* (bovine type) Lewis and Margot found develops a splenic tumor as a typical lesion. Removal of the spleen from mice (albino) greatly increases their resistance to the infection. This increased resistance cannot be explained at present. The infection in the splenectomized mice tends to remain localized as contrasted

with an almost septicemic type of disease which is usual in the normal animal. The animals of each group that live more than thirty days are apt to present typical exudative lesions. The removal of the spleen does not therefore grossly change what may be called the capacity of the body for exudation.

62. **Etiology of Epidemic Poliomyelitis.**—The globoid bodies, or minute micro-organisms, cultivated from the central nervous organs of human beings and monkeys that have succumbed to poliomyelitis, were detected by Amoss in the incubated brain tissues of infected monkeys in forms indicating post-mortem multiplication. He found that incubating the poliomyelitic tissues in kidney-ascitic fluid culture medium and then crushing them is a more certain method for obtaining cultures of the organism. Identical bodies have been detected by him in blood-films prepared on the twelfth day of the acute attack, from a paralyzed poliomyelitic monkey inoculated intraspinously. The same organism has been cultivated from the blood of a monkey that had received intravenously a large dose of a Berkefeld filtrate of poliomyelitic virus. No other micro-organisms were detected either in the sections of the brain or in film preparations of the blood. These observations tend therefore to confirm the etiologic relationship between the minute micro-organism and epidemic poliomyelitis suggested by the successful cultivation and inoculation experiments reported by Flexner and Noguchi.

63. **Intraspinous Infection in Experimental Poliomyelitis.**—By intraspinous injections of specimens of poliomyelitic virus of suitable virulence, Clark and Amoss cause infection regularly in *Macacus rhesus* monkeys. The virus passes from the subarachnoid spaces into the nervous tissues, in which it multiplies, and into the blood. The constant involvement of the pia-arachnoid membranes in poliomyelitis, even when no paralysis occurs, and the fact that infection can readily be produced by intraspinous inoculation, suggests anew that in the pathogenesis of poliomyelitis the interstitial tissue changes within the meninges, blood-vessels, and ground substance play a determining part. While the virus injected into the subarachnoid spaces can be demonstrated there by inoculation tests forty-eight hours after the injection, it can no longer be detected on the sixth day, at a time when the first symptoms of infection make their appearance. The failure of the cerebrospinal fluid from human and experimental cases of poliomyelitis to produce the disease when inoculated into monkeys is due to the fact that the virus is either fixed by the nervous tissues or passes into the blood.

Journal of Medical Research, Boston

January, XXIX, No. 3, pp. 367-530

64 Critical Review of Bacteriology of Human and Rat Leprosy. S. B. Wolbach and J. A. Honeij, Boston.
65 *Experimental Anaphylaxis in Labor. J. A. Kolmer, Philadelphia.
66 Extensive Pigmentation of Brain Associated with Nevi Pigmentosi of Skin. W. W. Maclachlan, Pittsburgh.
67 *Case of Malignant Rhabdomyoma with Multiple Metastases. A. M. Burgess, Montreal.
68 *Estimates of Cholesterol in Serum by Gravimetric and Colorimetric Methods. P. G. Weston, Warren, Pa.
69 *Giant-Cell Endothelioma of Gums with Observations on Formation of Giant-Cells in Same, and in Tuberculosis and Blastomycosis. R. C. Whitman, Denver.
70 Life Cycle of Hemogregarine Found in Monitor (Veranus Niloticus). S. B. Wolbach, Boston.
71 Histopathology of Fordyce's Disease. R. L. Sutton, Kansas City.
72 Differentiation of Streptococci; Preliminary Notes. C. Floyd and S. B. Wolbach, Boston.

65. **Experimental Anaphylaxis in Labor.**—In Kolmer's experiments labor in pregnant guinea-pigs at or near term was not influenced by the intravenous injection of relatively large doses of maternal pig serums collected just before and just after labor; nor by the injection of serums from young pigs removed at term by abdominal section and immediately after normal birth; nor by placental extracts and human placental serum. Subcutaneous administration of placental serum to eight pregnant women near term was without any effect on the uterus and with none or very slight effect on temperature, pulse and respiration. The theory of Heide regarding gradual sensitization of the mother by fetal toxins with onset of labor due to sudden intoxication with a large dose of fetal antigen and thus considering labor an anaphylactic process is not supported by experiments.

67. **Malignant Rhabdomyoma.**—Burgess' case is of interest in that it is evidence that the striated muscle-cell can give rise to tumors of extreme malignancy, which grow with great rapidity, metastasize generally and produce death in a comparatively short time. Another point of interest to which Burgess calls attention is the resemblance of the clinical and anatomic findings to those in cases of rapidly growing myeloblastoma (which are ordinarily known, in which they show a green coloration, as chloroma). The relatively high percentage of myeloblasts and myelocytes in the blood examined during life makes this resemblance especially striking. This appearance of myelocytes in the blood is apparently due to the general invasion of the bone marrow by the tumor, and is associated with the production of myeloblasts in the spleen. A third point worthy of attention is the fact that only after a very extended search was it possible to find tumor cells which had reached a sufficient degree of differentiation to enable them to be recognized as striated muscle-cells. This suggests the probability that many similar tumors pass unrecognized and that a certain proportion of those malignant neoplasms composed of rapidly growing undifferentiated cells, which are ordinarily called sarcoma or alveolar sarcoma by the pathologist, may in truth be malignant rhabdomyomas.

68. **Estimates of Cholesterol in Serum.**—Colorimetric and gravimetric determinations were made by Weston of (1) pure cholesterol, (2) impure cholesterol extracted from serum, and (3) impure cholesterol extracted from serum plus a known quantity of pure cholesterol. Known quantities of pure cholesterol subjected to the same process as that employed in the extraction of cholesterol from serum yielded 99.44 per cent. according to the colorimetric estimates and 108.56 per cent. by weight. Serum to which one milligram of pure cholesterol had been added to each cubic centimeter yielded an excess of one milligram per cubic centimeter according to the colorimetric method and an excess of 1.3835 milligrams by weight. In the seventeen experiments in which a known quantity of cholesterol was estimated by both methods the results obtained by colorimetric estimation were uniformly more accurate than the results obtained by weight.

69. **Giant-Cell Endothelioma of Gums.**—Myeloid or giant-cell sarcomas are divided by Whitman into two groups. The new group consists of tumors very closely resembling the true myeloid sarcoma, but which are clearly of endothelial origin. The giant-cell of this tumor is or may be an intravascular formation. Analogous processes of giant-cell formation occur in blastomycosis and in tuberculosis.

Kansas Medical Society Journal, Kansas City

January, XIV, No. 1, pp. 1-48

73 Perforating Ulcers, Gastric and Duodenal, in Vicinity of Pylorus. G. M. Gray, Kansas City.
74 *Study of Epilepsy Based on One Thousand Admissions to Kansas State Hospital for Epileptics. M. L. Perry, Parsons.
75 Trachoma. C. L. Zugg, Kansas City.
76 Relation of Pharyngeal Lymphoid Ring to General Health. H. C. Markham, Parsons.

74. **Epilepsy.**—Attention is called by Perry to a few points concerning the treatment of epilepsy noted from personal observation and experience. He says, that to be effective, systematic treatment should be begun early in the course of the disease and must be long continued. There are few diseases in which individual treatment is so important. Every case of epilepsy presents distinctive features which have a bearing on its proper and scientific handling. A very large number of patients will show temporary improvement under a change of treatment. In all head injuries a careful examination should be made for fractures of the skull and for evidence of depressed bone or meningeal hemorrhage. Any of these conditions calls for immediate operation as a prophylactic measure. All cases of jacksonian epilepsy should be operated on if seen early.

In long-standing due to cortical irritation and in chronic epilepsy from other causes little may be expected from intracranial surgery. As a routine measure, Perry says a search should be made for peripheral irritations to the nervous system and if any are found appropriate remedies either surgical or medical should be instituted for their relief. The attention should not be too strongly concentrated on merely checking the convulsive attacks, but it should be borne in mind that they are only symptoms of a general nervous disease.

There is no drug which of itself will effect a cure. Of all the drugs used in the treatment of epilepsy the bromin preparations are the most effective. The bromid of sodium is the most satisfactory as a usual thing. There is no advantage to be gained by combining a number of the bromids. Comparatively small doses of bromids usually yield better results on the disease as a whole than do large ones. Perry states emphatically that bromids should never be given except in proper doses determined for the individual case and where the patient is under the frequent observation of a physician. He is convinced that most of the disrepute into which the bromids have fallen in recent years is directly due to their indiscriminate and unscientific administration. Any form of medical treatment will be limited in its effectiveness unless reinforced by hygienic and dietetic regulations.

Kentucky Medical Journal, Bowling Green

February 1, XII, No. 3, pp. 93-130

77 Diseases and Pathology of Nasal Accessory Sinuses. E. Rau, Bowling Green.
78 Symptoms and Diagnosis of Diseases of Nasal Accessory Sinuses. S. G. Dabney, Louisville.
79 Treatment of Diseases of Nasal Accessory Sinuses—Surgically and Otherwise. J. A. Stucky and W. S. Stucky, Lexington.
80 *Prevention of Tuberculosis. D. S. Wilson, Louisville.
81 *Uterine Hemorrhage and Its Significance. R. C. McChord, Lebanon.
82 Secondary Puerperal Pathologic Conditions. J. K. W. Piper, Russellville.
83 Modern Methods of Infant Feeding. G. Fulton, Louisville.
84 *Puerperal Eclampsia; Cause and Treatment. E. Speidel, Louisville.
85 Buttermilk as Therapeutic Agent. E. L. Gowdy, Campbellsville.

80, 81 and 84.—Abstracted in THE JOURNAL, Sept. 20, 1913, pp. 989 and 900.

Lancet-Clinic, Cincinnati, Ohio

January 31, CXI, No. 5, pp. 129-156

86 Specialized Tissue of Heart with Reference to Normal and Abnormal Action. J. E. Greiwe, Cincinnati.
87 Some Phases of Kidney Surgery. H. J. Scherck, St. Louis.
88 Some Serious Eye Conditions Result of Intranasal and Nasal Accessory Sinus Disease. J. A. Stucky, Lexington, Ky.

Maine Medical Association Journal, Portland

January, IV, No. 6, pp. 1661-1704

89 Prophylaxis in Army. W. H. Wilson, U. S. Army.
90 Heroinism. P. K. Sellew, Brookline, Mass.
91 Medical Pilgrimage to Two Ancient and Extinct Medical Schools, Castleton, Vt. and Fairfield, N. Y. J. A. Spalding, Portland.

Medical Record, New York

February 7, LXXXV, No. 6, pp. 231-276

92 Treatment of Retrodisplacements of Uterus. W. M. Polk, New York.
93 Etiology of Mental Torticollis: Report of Case. L. P. Clark, New York.
94 *Bridge Splint Operation for Correction of Deformities of Nose. W. W. Carter, New York.
95 Hypophyseal Disease as Related to Diabetes Insipidus. D. B. Jewett, Rochester, N. Y.
96 Case of Scleroderma. A. J. Gilmour, New York.
97. Drug-Habit Menace in South. E. H. Williams, Montclair, N. J.
98 Brain Abscess due to Bacillus Coli Communis. E. P. Bernstein, New York.

94. **Operations for Nose Deformities.**—The bridge-splint used by Carter consists of a lightly constructed steel bridge, the two wings of which are hinged together in the middle, and the distance to which they can be separated is regulated by a thumb-screw. The edges of these wings are padded with rubber. The second part of the instrument consists of two small intranasal splints perforated by several small holes. Silk sutures are first passed through holes in the intranasal splints and knotted. By means of a curved needle each suture is then passed from within the nose through the roof fairly near the junction of the bony with the cartilaginous dorsum. The bridge is then placed over the nose and the correct amount of pressure applied to the base of the nasal arch by means of the thumb-screw adjustment. The sutures are then passed through corresponding holes in the bridge and sufficient tension applied to pull the nose up into its proper position. The sutures are then tied together over the hinge of the bridge.

The instrument is said to exert its force along lines diametrically opposed to those of the force that produced the deformity. Carter has found this instrument most useful in treating recent fractures, in correcting lateral displacements, depressed and irregular deformities. This method is said to have the great advantage of correcting the intranasal as well as the external deformity. He has frequently used the bridge-splint in connection with the bone transplantation operation where there was need for additional support.

Modern Hospital, St. Louis

January, II, No. 1, pp. 1-68

99 Architecture and Equipment of New Cincinnati General Hospital. H. E. Hannaford, Cincinnati, O.
100 Planning for Private Patients. S. S. Goldwater, New York.
101 Admission of Patients in Small General Hospital. E. Greener, Muskegon, Mich.
102 James Buchanan Brady Urological Institute of Johns Hopkins. H. H. Young, Baltimore.
103 Social Service: Contribution to Economy and Efficiency. E. V. H. Richards, Boston.
104 Organization of Dispensary of Johns Hopkins Hospital. R. B. Seem, Baltimore.
105 Iowa's First County Hospital Is Pronounced Success. A. Beers, Fairfield, Ia.
106 Efficient Methods in Cost Accounting and Hospital Finances. W. O. Mann, Boston.
107 Roentgen-Ray Department in Small Hospital. E. W. Caldwell, New York.

New Orleans Medical and Surgical Journal

February, LXVI, No. 8, pp. 581-654

108 Prostatectomy Under Local Anesthesia. C. W. Allen, New Orleans.
109 *Use of Vaselin as Substitute for Beck's Paste. P. B. Salatich, New Orleans.
110 Epidemic Cerebrospinal Meningitis: Neurologic Aspects. R. M. Van Wart, New Orleans.
111 Roentgenotherapy of Myoma of Uterus and of Bleeding at Menopause. E. C. Samuel, New Orleans.
112 Ear and Throat Complication of Leukemia and Pseudoleukemia. I. Erwin, New Orleans.
113 Stab Wound of Heart Injuring Left Ventricle, Exhibition of Specimen. L. B. Crawford, New Orleans.
114 Abuse of High Proteid Diet in Treatment of Tuberculosis. W. A. Love, New Orleans.
115 Roentgenoscopy of Gastric Ulcer. A. Granger, New Orleans.

109. **Vaselin as Substitute for Beck's Paste.**—Salatich describes his method as follows: Sterilize the amount necessary in an open vessel, set in your sterilizer or water bath, then draw into one or more ordinary glass syringes and use partly warm or cool, as we do Beck's paste. In the most foul and freely suppurating cavities, after one injection and without any other treatment, all odor and suppuration diminish. Abdominal wounds, that suppurate either from infection or contaminated catgut, often show very foul pus. After making an incision—only a small one is necessary when vaselin is used—all the pus is pressed out; the cavity is then filled with vaselin, and the wound needs no dressing for two or three days, at the end of which time very little odor and pus remain. The procedure is then repeated, and the dressing for two or three days, at the end of which time very little odor and pus remain. The procedure is then repeated, and the dressings can remain for a longer period, only wiping the abdomen with alcohol being necessary. It was marvelous to Salatich how rapidly cases healed in which the entire wound above the fascial layers suppurated, and with less danger of hernia resulting.

In all acute and subacute sinuses he says it is best to wait until little serum or sero-pus exudes before injecting the vaselin, especially if there is any fear of dead bone at the bottom, which must be removed, or the patient will be made worse, for the vaselin stops drainage and the pus must find some other means of exit. Salatich points out that vaselin is cheap, easily handled and sterilized and free from danger of poisoning.

Ophthalmology, Seattle, Wash.

January, X, No. 2, pp. 207-374

116 Interstitial Keratitis in Ophthalmic Practice. J. S. Fernandez, Havana, Cuba.
117 Newer Operations for Acute and Chronic Glaucoma. L. W. Fox, Philadelphia.
118 T-Shaped Sclerotomy. Van Lint, Brussels.
119 Industrial Electricity as Cause of Cataract. E. Lauder, Cleveland.
120 Asthenopia of Muscular Imbalance. H. F. Hansell, Philadelphia.
121 New Plastic Operation for Entropion. F. B. Tiffany, Kansas City, Mo.
122 Adenoids as Factor in Amblyopia. C. F. Adams, Trenton, N. J.
123 Twenty Cases of Trephining for Glaucoma. N. Remmen, Chicago.
124 Cases of Injuries from Foreign Bodies Examined by Roentgen Rays, with Results of Operation. W. M. Sweet, Philadelphia.
125 Three Operations on Eye and Face Under Regional Anesthesia. R. Danis and M. Danis, Brussels.

Public Health Journal, Toronto

January, V, No. 1, pp. 1-63

126 Smoke Problem. R. N. Blackburn, Regina, Sask.
127 Municipal Food Inspection. J. G. Rutherford, Calgary, Alta.
128 Significance of Human Waste in Modern Life and Its Causes. J. S. Woodsworth, Regina, Sask.
129 Plague: Its Varieties and Prevention. W. E. Home, Toronto.

South Carolina Medical Association Journal, Seneca

January, X, No. 1, pp. 361-394

130 Surgical Repair of Blood-Vessels: Technic, Its Uses and Limitations. J. S. Horsley, Richmond, Va.
131 Autotoxemia and Acidosis. T. G. Croft, Aiken.
132 Some Accessory Facts to Eye, Ear, Nose and Throat Work of Interest to All Physicians. L. O. Mauldin, Greenville.
133 What Spartanburg County Medical Society Is Doing for Present Pellagra Situation. J. L. Jeffries, Spartanburg.
134 Surgical Clinics in Europe. H. A. Royster, Raleigh, N. C.

Wisconsin Medical Journal, Milwaukee

January, XII, No. 8, pp. 247-280

135 *Local Skin Reaction following Intradermal Injections of Tuberculin as Guide to Tuberculin Therapy. O. E. Lademann, Milwaukee.
136 Subcutaneous Traumatic Rupture of Intestine with Report of Cases. C. A. Evans, Milwaukee.
137 Physician and Compensation Law. G. E. Seaman, Milwaukee.
138 Regulations Governing Nurses in Wisconsin. M. Iversen, Stoughton.

135. Abstracted in THE JOURNAL, Nov. 1, p. 1657.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

December 20, XXXIV, No. 25, pp. 563-580

1 Simple Suggestion for Prevention of Pneumokoniosis, Pulmonary Tuberculosis and Allied Disorders. O. Paget.
2 *Cancer of Breast Treated by Secondary Rays from Tin. E. J. Roberts.
3 Paget's Disease of Nipple: Duct Cancer: Arterio-Venous Aneurysm. S. Stacy.

December 27, No. 26, pp. 581-594

4 Diet, Dystrophy and Diarrhea in Infants. W. F. Litchfield.
5 Case of Subcutaneous Emphysema of Face, Neck and Chest Occurring During Labor. H. Gilbert.

January 3, No. 1, pp. 1-20

6 Spinal Curvature. R. E. Roth.
7 Small-Pox of Fetus in Fourth Month. C. Hall.

2. **Cancer of Breast.**—In subjecting malignant tumors of the breast to the action of the secondary rays from tin, a large plate (10 in. by 8 in.) is used by Roberts and placed close against the breast. By using a plate of this size, the rays are distributed over areas where possibly undetected infiltration may be present, and as these rays have no injurious action on the normal tissues, Roberts considers it advisable to assume the presence of permeation or infiltration in the surrounding area. The exposures should be given for ten minutes each at least, or longer, as the operator considers necessary. The patient need not be exposed during the sitting, but corsets should not be worn. Roberts cites three cases.

British Medical Journal, London

January 24, I, No. 2769, pp. 177-228

8 *Chronic Intestinal Stasis: "Auto-Intoxication" and Subinfection. J. G. Adami.
9 *Idem: Anatomy and Treatment. S. S. Pringle.
10 Idem: Etiology and Treatment. H. M. W. Gray.
11 Some Effects of Chronic Intestinal Stasis on Female Generative Organs. H. Chapple.

8. **Auto-Intoxication and Subinfection.**—Adami believes that it is more rational to regard the evil effects of intestinal stasis as, in the main, a result of conditions favoring subinfection and low forms of infection than as a result of chronic intoxication. The term "gastro-intestinal auto-intoxication" is pernicious and not to be employed by any self-respecting member of the profession, save for so limited a set of conditions that for ordinary purposes it may safely be expunged from the medical vocabulary. While he regards it as being possible that the symptoms and diseases enumerated by Lane may follow intestinal stasis, he is convinced at least a large proportion of them may originate independently of such stasis. Before recommending the operation of short-circuiting it is necessary, therefore, to make the fullest studies, so as to discover, if possible, the nature of the organism responsible for the disturbance and its probable seat of entry. A discovery of the cause of the symptoms is calculated to suggest the appropriate means of treatment by means other than short-circuiting. Only when these have been tried and found wanting is removal or short-circuiting of the colon justifiable.

9. **Chronic Intestinal Stasis.**—Pringle divides the treatment of chronic intestinal stasis into (1) prophylactic, (2) medical, (3) local operative, (4) radical operative. He advises under these heads the proper development of the abdominal muscles by suitable exercises; the acquiring in early life of a regular habit of *emptying the bowels and the avoidance of the routine* use of aperients; the use of an abdominal belt, and the internal administration of paraffin in doses of 1 to 4 drams, three times a day, in the form of liquid paraffin (B. P.) flavored with one of the essential oils, such as cinnamon or peppermint.

In midline ptosis he, as a rule, performs Rovsing's gastropexy, together with shortening of the gastrohepatic and gastrocolic omenta, but in some cases he has employed Coffey's omentopexy. If the liver has also prolapsed and would endanger the success of the gastropexy, he first fixes it up by shortening the falciform ligament and suturing the free edge of the liver to the anterior parietal peritoneum. If the upper abdomen is very contracted he has enlarged it after the manner advocated by Coffey and Rovsing. Should the splenic flexure be slung very high, he divides the costo-colic ligament and opens up the angle by suturing the descending colon to the left lateral abdominal wall after dividing any adhesions which might bind the two limbs of the angle together.

In kinking at the duodeno-jejunal junction he fixes the jejenum to the under-surface of the transverse mesocolon in such a way as to open out the angle; in other words, he reproduces the mesocolic band. For Lane's ileal kink he divides the band parallel to the line of the bowel and sutures the resultant rent vertically, employing, if necessary, an omental graft to assist in covering in the raw area. In mobile dilated cecum unassociated with Jackson's membrane he has employed many methods of fixation, and has also enfolded it in cases of marked dilatation. Recently, however, he has used the method of Coffey. If a mobile cecum is associated with Jackson's membrane, he divides this prior to fixation. When Jackson's membrane is found without ptosis of the cecum, but constricting the colon, he merely divides the membrane, and if any raw surface is left, which occurs in cases of secondary inflammatory thickening, he uses an omental graft to prevent adhesion formation.

If a double-barrelled colon be present, or if the bands in the neighborhood of the hepatic flexure are very dense, and likely to recur, Pringle does a lateral anastomosis between the cecum and the transverse colon, or—and he thinks this the better procedure—excises the cecum, ascending and right half of the transverse colon, and restores the continuity of the intestine by implanting the end of the ileum into the remaining part of the transverse colon. In all cases of trouble in the cecal region he also removes the appendix. Where the last or sigmoid kink is causing trouble he divides the shortened leaf of the mesentery transversely and sutures it vertically. The radical procedures Pringle reserves, short-circuiting and colectomy, for the cases in which multiple conservative operations would not be effective, or in which the length of time necessary for their performance would endanger the life of the patient. His opinion is that ileocolostomy is not a good surgical procedure, and he believes that where conservative operations are contra-indicated the best operation is complete colectomy.

Dublin Journal of Medical Science

January, III, No. 505, pp. 1-80

12 Tuberculosis in Persia and Its Treatment by Koch's Tuberculin. H. T. Marrable.
13 Bile Pigments and Their Derivatives in Urine. R. T.: Vaughan.
14 Case of Pneumo-Typhoid Fever. J. Moore.

Journal of Obstetrics and Gynecology of British Empire, London

December, XXIV, No. 6, pp. 287-338

15 Surgical Treatment of Tube and Ovary. C. G. Child, New York.
16 *Serum Reaction in Pregnancy and Cancer by Coagulation Method. W. W. King.
17 Parasitic Uterine Fibroid. C. H. Lilley.
18 Extra-Uterine Pregnancy Twice in Same Patient; Treatment of Tubal Mole. B. Whitehouse.
19 Hydropyonephrosis Complicating Pregnancy. H. T. Hicks.
20 Case of Cesarean Section; Operation. V. Bonney.
21 Case of "Pre-Eclampsia" at Twenty-Fourth Week; Cesarean Section. V. Bonney.

16. **Serum Reaction in Pregnancy.**—The serum of pregnancy and malignant disease was tested by King against various tissues. The albumin was obtained from the urine of a patient suffering from albuminuria of pregnancy, and her serum was the only one out of four pregnant patients which did not digest this substance. The carcinoma tissue was obtained from a case of advanced carcinoma of the cervix, and both this and the albumin were prepared exactly in the same way as the placental albumin. Out of nine pregnant serums, six digested other albumins besides placenta, thus demonstrating that the ferments of pregnancy are not limited in their power of digesting albumin. Of eight cases of malignant disease, three digested placental tissue. These three cases included one of sarcoma of the knee. The digestion of the placenta shows that a ferment was present, and rather suggests to King that a positive result might have been obtained if suitable tissue had been available. Urinary albumin was not, however, digested by this serum, though a case of epithelioma of the tongue reacted strongly to it. Three sarcomas were negative to carcinoma tissue. Thus out of seventeen cases of pregnancy and malignant disease, nine serums digested albumins of a different type from that against which, *ex hypothesi*, they were produced. Hence if King's observations are accurate the ferments are not specific.

Journal of Tropical Medicine and Hygiene, London

January 15, XVII, No. 2, pp. 17-32

22 *Use of Tuning-Fork in Diagnosing Outlines of Solid and Hollow Viscera of Chest and Abdomen and of Certain Pathologic Conditions. J. Cantlie.
23 "Espasmo Tropical"; Malignant Disease Associated with Parasite in Blood. R. Vergne.
24 Detection of Trypanosomes in Animals. A. Lundie.

22. **Diagnosing Outlines of Solid and Hollow Viscera of Chest and Abdomen.**—For some years Cantlie has used the tuning-fork in conjunction with the stethoscope as a means of ascertaining the exact outlines of the liver and other organs. The principle involved in the use of the tuning-fork-stethoscope method is that when the stethoscope is placed over an organ, be it a solid organ such as the liver, spleen, heart, etc., or a hollow organ such as the stomach or cecum, and the vibrating tuning-fork is made to impinge on the surface of the body over one or other of these organs, the note of the tuning-fork manifests by its loudness the limits of the organ being examined, and the moment the limits are passed the note becomes faint, distant, or is altogether inaudible. The best results are obtained by a fork whose note is G-sharp, and the end of the fork is not flattened, but pointed rather. The fork may be struck against anything hard, the heel of the boot if nothing else is available, and while loudly vibrating the end of the stem is pressed lightly but firmly on the skin. The practical application of the tuning-fork-stethoscope method, applied, say, to the liver, is as follows: Place the stethoscope (binaural) on the lower part of the chest wall just above the lower part of the right true rib cartilages about one inch behind a line drawn downward from the right nipple. The tuning-fork is now made to travel from the region of the chest midway between the sternum and the nipple line downward over the liver. The note heard (if heard at all) when the tuning-fork is over the lung is faint or distant, but the moment it reaches the area of the liver the note is loudly heard; when the lower limit of the liver is reached and the tuning-fork has other abdominal organs beneath it, the sound suddenly fades away to a faintly distant hum. The degree of pressure necessary for diagnostic purposes varies; over the chest the end of the fork has only to be gently pressed against the skin; but when a careful search has to be made for the limits of the lower edge of the liver, as in stout people or in cases of distentions from gas in the intestines or fluid in the peritoneal cavity, the fork has to be pressed fairly deeply at times, so that the piece of intestine may be pushed aside or the fluid between the abdominal wall and the liver displaced.

Lancet, London

January 24, I, No. 4717, pp. 223-288

25 Pathology of Syphilis, Especially in Its Bearing on Treatment. W. d'E. Emery.
26 Dosage: Suggested Amendments in Stating Doses of Medicines in British Pharmacopeia. C. O. Hawthorne.
27 Bismuth Ureteral Catheter, Collargol Solution and Barium Sulphate Suspension in Diagnosis of Some Urinary Diseases. R. J. Willan.
28 *Protein Metabolism During Starvation and after Administration of Milk Protein. G. Mann.
29 *Toleration of Arsenic by Human System. H. G. A. Harding.

28. **Protein Metabolism during Starvation.**—Starvation, according to Mann, invariably leads to a rarefaction of the cell body and its processes. In all starved animals the contractile elements of the heart, both the isotropous and the anisotropous, undergo an atrophy amounting to 25 per cent. of the normal state. The nervous system also suffers during starvation. This loss, if stimulation of the nervous system is eliminated, is restricted to the conducting paths. Feeding with sodium caseinogenate containing 5 per cent. of sodium glycerophosphate it is possible within two hours to get a definite increase in the nuclear activity even of cells which are not supplied directly by the blood, as, for example, in the cornea and in cartilage. This milk protein further leads to an increased depth of staining of the heart muscle and of nerve fibers, and this deeper staining it is impossible to explain in any other way, except to assume that the amino-acids liberated by the digestion of the caseinogen are actually built up into what Mann terms the "available" protein. From the conservation of protein point of view, as well as from that of restoration, it is absolutely necessary to have a nonpurin-containing, easily digestible albumin. From the evolutionary point of view milk protein is the best. Caseinogen with its phosphorus content and other radicals is to the mammal what the yolk and the white of egg together are to the fowl. Neither of these foods contains purin, but, being mammals, Mann advises to give milk protein in fevers and in all cases of debility in preference to eggs, especially as erepsin by itself is capable of digesting caseinogen. Also, he says, give a minimal amount of the fats of milk, just sufficient to bring calories up to 3,500 or 4,000, especially when dealing with adults, and thereby hasten absorption of the amino-acids and also the liberation of waste nitrogen by the liver. Milk sugar, because of its slow conversion into its monosaccharids, and therefore steady supply of potential heat, should be left for calorific purposes in combination with caseinogen.

29. **Toleration of Arsenic by Human System.**—Beginning with $\frac{1}{60}$ gr. doses of arsenious oxid thrice daily immediately after food, Harding reached the dose of $1\frac{1}{6}$ gr., which produced irritability and distinct and lasting discomfort every way it was taken and all precautions notwithstanding. In 1 gr. doses the drug could only be taken with comfort if dry foodstuffs were consumed at meals—if liquid beverages were

partaken of, or if the food was of the sloppy order, the administration of the grain dose of As_2O_3 produced immediate discomfort and burning pains in the abdomen, lasting forty minutes to one hour and acting as a distinct aperient within three hours.

Archives des Maladies de l'App. Digestif, Paris

December, VII, Nos. 1-2, pp. 661-724

30 *Fat Content of Blood during Digestion as Test of Functioning of Biliary Apparatus. (La lipémie digestive dans les affections du foie et des voies biliaires.) A. Lemierre, M. Brulé and A. Weill.
31 *Reflex Syndrome Started from Large Intestine. (Cas grave de réaction colique.) A. Mathieu.
32 Pathologic Proportion of Amino Acids in the Urine. M. Labbé and H. Bith.

30. **Digestive Lipemia.**—Lemierre and his coworkers comment on the simplicity and convenience of methods of research on the blood rather than on the stool when studying the absorption of substances from the food, especially fat. By determining the fat content of the blood during or following at once on digestion, we can recognize any pathologic increase or drop. Either the ultramicroscope for the whole blood or chemical analysis of the serum will supply the figures. The blood of a person fasting for twenty-four hours shows none of the fat granules in the spaces between the corpuscles on dark field illumination, but after a meal with much fat the blood swarms with the shiny granules of fat. Nothing should be eaten after a light supper, without fat, until a drop of blood is taken next morning to examine with the dark field. Then the test breakfast is eaten and the blood is examined anew from two to five hours afterward when the fat particles in the blood are at their maximum. Under normal conditions, the blood swarms with them and chemical tests confirm that this blood dust is truly fat particles.

Their research has demonstrated that in case of total obstruction of the biliary passages there is no absorption of fat into the blood. When there is jaundice from retention of bile pigment alone, the absorption is not modified but when there is retention of the bile salts, the fat particles cease to appear in the blood. This dissociation of the bile and retention of only part of its elements have been demonstrated again and again by determination of the digestive lipemia. For this isolated retention of the pigment or of the bile salts alone, the liver itself must be responsible, as nothing else could display such selective action in this line. Experiments on numbers of dogs confirmed these theoretical assumptions, injury of the parenchyma of the liver by means of specific cytotoxins reproducing at will the two types of dissociated jaundice. The pancreas was shut off from the digestive tract in twenty dogs but this did not seem to influence the absorption of fat from the food; this suggests that in many cases of defective absorption of fat in which the pancreas was incriminated, the liver was really at fault.

31. **The Colon Reaction Syndrome.**—Mathieu called attention in 1909 to the severe disturbance, vertigo, syncope and pain which are liable to come on suddenly as a reflex reaction to the abrupt emptying of the large intestine after a period of constipation. Any syncope may prove fatal under certain conditions, and the colon reaction may superpose a puzzling element in other affections, especially in neurasthenics and with chronic colitis or lead poisoning. Gaucher has reported a case of the latter in which the patient died during the act of defecation and nothing except the assumption of this colonic reaction could be found to explain the fatality.

To illustrate the possible gravity of this reaction, Mathieu gives the details of a case in which a young woman was operated on for supposed perforation of a gastric ulcer but nothing of the kind was discovered and the retrospective diagnosis was a series of colonic reactions occurring each time at defecation after a period of constipation. The main symptoms were vomiting, epigastric pain, tendency to collapse, syncope, and small rapid pulse. In another case a woman of 50 with chronic colitis had a very severe colonic reaction following a medicated enema; the pulse kept good but the cold extremities, cyanosis, drawn features, general depression and other features of the crisis persisted for three hours.

Archives Mensuelles d'Obstétrique et de Gynecologie, Paris

December, II, No. 12, pp. 465-604

33 Two Cases of Successful Transfusion of Blood after Delivery. C. Jeannin and J. L. R.-Berger.
34 *Prolapse of the Cord. R. Johansson.
35 Effect of Roentgen Rays on the Ovary. A. Levant.
36 Legislation on Rest for Parturients. M. Levant.

34. **Prolapse of the Cord.**—Johansson states that this occurred in 35 of the 7,518 obstetric cases at the Lund maternity since 1900. In nearly 29 per cent. of the cases the cause of this complication seemed to be some contraction of the pelvis. In 20 cases there was head presentation, in 6 shoulder, and in the others breech or foot presentation. There was placenta praevia in only 1 case. In 2 cases the fetus was dead and the delivery was left to Nature, but in the other cases it was hastened to save the child. The lesson taught by this material is the necessity for delivering the child at once even if labor has only just commenced. This can be easily done by incising the cervix, which was done in one of the cases with excellent outcome, delivering the fetus before it showed the slightest signs of asphyxia. This is particularly important with breech and foot presentation. Temporizing is more dangerous for the child than instrumental or operative delivery. The experiences at other clinics are compared with those at Lund, to sustain these statements.

Bulletin de l'Académie de Médecine, Paris

January 6, LXXVIII, No. 1, pp. 1-43

37 High Arterial Pressure of Renal Origin a Defensive Reaction. C. Fiessinger.
38 Xiphopagus. (Deux fillettes xiphopages.) G. Le Filliatre.

Bulletins de la Société de Pédiatrie, Paris

December, XV, No. 10, pp. 517-541

39 Transient Cardiac Collapse during Vaccine Therapy of Typhoid Fever. H. Méry.
40 Radiography of Tracheobronchial Lymph-Nodes. E. A. Weil.

Journal de Médecine de Bordeaux

January 11, LXXXV, No. 2, pp. 19-30

41 Vaccine Therapy of Typhoid Fever. R. Lafargue.

January 18, No. 3, pp. 31-48

42 Drawing Down the Foot with Incomplete Breech Presentation (Abaissement prophylactique du pied dans la présentation du siège décompleté mode des fesses.) Fieux.

Lyon Médical, Lyons

January 11, XLVI, No. 2, pp. 57-108

43 Secondary Pneumothorax of Traumatic Origin. Pleural Eosinophilia. Recovery. F. Barjon, Langeron and Garnier.
44 Recent Discoveries in General Paralysis and Attempts to Find a Successful Treatment. L. Bériel. Commenced in No. 1.

Presse Médicale, Paris

January 10, XXII, No. 3, pp. 21-32

45 *Removal of Enlarged Spleen with Chronic Jaundice. (La splénectomie dans les ictères chroniques splénomégaliques.) A. Gilbert, E. Chabrol and H. Bénard.
46 Depressing Action on Blood Pressure of Certain Hypophysis Extracts. H. Claude and R. Porak.
47 Physiologic Cytolysis. (Les conditions physiologiques et pathologiques de l'homoeolyse et de l'isolyse des globules rouges.) L. Bory.
48 *Tonus of Uterine Cervix as Aid in Gynecologic Diagnosis. (Tonicité utéro-pelvienne.) Macrez.

January 14, No. 4, pp. 33-40

49 *Diabetes plus Typhoid Fever. M. Labbé and A. Gendron.
50 Resection of Esophagus for Cancer Under Artificial Respiration Maintained by Motor. A. Baumgartner.

January 17, No. 5, pp. 41-52

51 Experimental Auricular Fibrillation. H. Busquet.
52 Technic for Local Anesthesia with Colpo-Perineorrhaphy. L Kendirdjy.
53 Diagnostic Import of the Minimal Blood Pressure. C. Lian.

45. **Splenectomy for Chronic Jaundice with Splenomegaly.**—Gilbert had a patient drifting into pernicious anemia when he began to read of benefit from splenectomy in such cases, and had soon found records of forty-eight in which splenectomy was applied for progressive anemia. Five of the patients died but all the others were improved and a number were apparently cured. The progressive anemia and emaciation in his patient, a butcher of 45, the absence of pain in the spleen region and the movability of the spleen all encouraged its removal, which was done with the minimum of operative shock. In a week the number of reds had climbed from 1,200,000 to 1,900,000 and the gradual improve-

ment continued until the general condition was very satisfactory. The spleen weighed 950 gm. but seemed normal until histologic examination revealed sclerosis and the traces of intense hemolysis. Although the benefit did not amount to a resurrection, yet the improvement was beyond question and has persisted for over a year to date.

48. **Tonus of the Uterine Cervix as Guide in Treatment of Pelvic Disease.**—Macrez expatiates on the value of the information as to conditions in the pelvis which may be obtained from the uterine cervix — whether it is relaxed or spasmodically contracted. In some cases the atony alternates with hypertonicity. With hypertonicity, the general nervous system requires soothing; electricity or spa treatment is useful here. As long as the sphincter of the internal os is not normal, the cure of a gynecologic affection is not complete and recurrence is liable. There may be some erosion of the mucosa causing the trouble, similar to that from an anal fissure but promptly amenable to treatment. When the cervix is abnormal in this way, the patient may suffer vaguely or may have tenacious neuralgia in the pelvis, or permanent sterility when she is longing for children. If a pregnancy intervenes, the cervix enters on a new phase and all returns to order; some women say they never feel quite well except when they are pregnant.

49. **Typhoid Fever in Diabetics.**—The typhoid fever in the case reported had a number of complications and ran an atypical course for which the diabetes was probably responsible. This experience confirms the general impression that a febrile affection often has an aggravating influence on diabetes. It may even arouse the tendency to diabetes for the first time in a person presumably healthy. The typhoid is liable to run an unusually severe course in a diabetic; of the seven cases of this class he has found on record, only two of the patients survived the typhoid.

Revue de Chirurgie, Paris

December, XXXIII, No. 12, pp. 825-1010

54 Deformity of Tarsus Simulating Fracture. (L' "os tibiale externum," ses rapports avec la tarsalgie et la fracture du scaphoide tarsien.) A. Mouchet.
55 Operative Treatment of Gastric Ulcer. L. de Rydygier.
56 *Autodrainage for Internal Hydrocephalus. L. M. Pussep.

56. **Operative Treatment of Hydrocephalus.**—Pussep trephines above the ear, and cuts a tongue-shaped flap in the dura 2 cm. in diameter and 3 cm. long, which is slit its entire length. The brain is then punctured with a needle 3 mm. in diameter, made of several small tubes 3 cm. long, screwed together to form one tube. The tube-needle is pushed down into the ventricle until fluid commences to flow. Then the superfluous parts of the tube are unscrewed and the halves of the outer end of the part of the tube left are bent apart at right angles. The two flaps of dura are drawn underneath the little T-tube. It thus rests on the dura flaps, and can rise and fall freely with the respiratory movements of the brain. He has applied this technic to eighteen children for hydrocephalus and to two adults for brain tumors. Among the fourteen children whose case-histories are given in full, in three the hydrocephalus was secondary to a brain tumor, in one acute, and in ten chronic. In the ten chronic cases benefit was constantly realized, the more pronounced the earlier the intervention. In the brain tumor cases the operation warded off blindness. Two of these patients were relieved of their distressing symptoms and vision persisted unimpaired. Necropsy in one case in which the tube had been worn for three months, showed that a permeable passage had been definitely formed. By eliminating the symptoms due to the hydrocephalus, it may first prove possible to locate a brain tumor. Vigorous internal treatment and general measures are indispensable to reenforce the action of the autodrainage. The technic advocated is a modification of Krause's method.

Semaine Médicale, Paris

January 14, XXXIV, No. 2, pp. 17-24

57 Loss of Hemiopic Lid Reflex in Hemiplegia. (De la perte hémiopique du réflexe palpébral dans les hémiplégies.) L. Bard.
58 Tumors of the Chest Wall. (Les tumeurs, de siège anormal, du squelette thoracique.) F. Lejars.

Archiv für Gynaekologie, Berlin

CI, No. 3, pp. 513-774. Last indexed February 7, p. 495

59 *Means to Promote Labor Contraction of the Uterus. (Ueber Wehemittel.) A. Tassius.
60 Acardius Monster. (Fall von Acardius anencephalus mit partiellem Defekt beider Müller'schen Fäden.) R. Klotz.
61 Hypophysis Extract as Oxytocic. W. Gardlund.
62 *Connection between Ovulation, Menstruation and Pregnancy. (Corpus luteum, Menstruation und Gravidität.) J. W. Miller.
63 Adenomyomas of Female Genital Tract. A. Bortkiewitsch.
64 *Influence of Age of Mother on Presentation, Course of Delivery, Etc. (Erfahrungen an den letzten 10,000 Geburten mit bes. Berücksichtigung des Altersbildes.) E. Zweifel.
65 Dystocia from Distention of Fetal Bladder. P. Böhl.
66 *Carcinoma at Same Time in Uterus and Adnexa. P. Werner.

59. **Means to Accelerate Labor.**—Tassius says that when it is a question of reenforcing weak labor contractions, the practice at the Breslau maternity is to give quinin and supplement this with hot compresses, hot baths and superheated air. This with primary weakness of the labor contractions at term or with abortion tends to induce vigorous and prolonged labor contractions. During the second stage of labor, when it is a question of hastening delivery with prompt and vigorous action, hypophysis extract is given to make it unnecessary to apply the forceps. Ergot is only exceptionally given at any time except to combat inertia, atony of the uterus and afterhemorrhage. It is generally combined with some hypophysis extract and hot compresses to induce a rapid and persisting effect. When it is a question of inducing labor contractions to bring on premature delivery, the metreurynter (glycerin-sheep bladder) is the sole reliance. The experiences related cover two years and embrace 4,109 deliveries.

62. **Ovulation, Menstruation and Gestation.**—Miller discusses the biology of the corpus luteum and its connection with gestation, his clinical and experimental experience confirming, he thinks, the assumption that the corpus luteum is a periodically developing gland with an internal secretion. It is responsible for the cyclic transformation of the endometrium into decidua, and also for the trophic conditions in the uterus, the turgor which protects the incipient pregnancy; the corpus luteum also prevents the ripening of another ovum while the pregnancy lasts. Menstruation is merely the relief of the hyperemic uterus; it has nothing to do with conception. The most favorable time for conception is the tenth day before the onset of the following menses. The ovulum of the first suppressed menses is the one embedded; there is no such thing, he declares, as a postmenstrual embedding. The standard duration of pregnancy should therefore be reduced by nineteen days.

64. **Influence of Mother's Age on Course of Childbirth.**—Zweifel gives twenty-five charts showing the frequency of complications, operations, etc., in 10,000 maternity cases classified according to ages. The proportion of operations required increased with the mother's age, both for women who have borne children before as well as for the primiparae. This was true also for eclampsia and placenta praevia, but laceration of the perineum occurred less frequently with pluriparae with increasing age and more frequently in older primiparae. The mortality of the children was higher with pluriparae than with primiparae, on account of the greater tendency among the former to transverse presentation and placenta praevia.

66. **Simultaneous Cancer in Uterus and Adnexa.**—Werner was not able to find any clinical data which permit differentiation of this condition. He found a cancer in the adnexa along with the cancer in the uterus in 4 per cent. of 374 operations for cancer on the internal genitals; in three of the fourteen cases the cancers seemed to be entirely independent of each other.

Archiv für klinische Chirurgie, Berlin

CIII, No. 2, pp. 255-583. Last indexed January 31, p. 415

67 *Treatment of Cleft Palate and Harelip. (Ueber die Behandlung der Kiefer- und Gaumenspalten, unter bes. Berücksichtigung der Frühoperation und der Methode nach Brophy.) E. Kaerger.
68 *Technic to Promote Healing of Wounds in Liver, Spleen and Kidneys. (Heilung der Leber-, Milz- und Nierenwunden.) G. A. Waljaschko and A. A. Lebedew.

69 *Nail Extension. (Nagelextension.) H. Riedl.
70 *Sterility and Bactericidal Action of Normal Bile. R. Toida.
71 Fate of Skin Flaps. (Schicksal des homöoplastisch transplantierten Hautlappens beim Menschen.) T. Oshima.
72 Experimental Surgery of Aorta under Intratracheal Insufflation General Anesthesia. O. Uffreduzzi and G. Giordano.
73 *Acute Pressure on the Brain. (Zur Frage des Hirndrucks. I.) F. Breslauer.
74 Obturator Hernia; Six Cases. E. Meyer.
75 *Non-Malignant Stenosis of Bile Passages from Other Causes than Gall-Stones. J. Berg.
76 *Total Prostatectomy for Hypertrophy. A. P. Grinenko.
77 Transplanted Renal Veins. (Endgültiges Ergebnis der Verpflanzung der Nierenvenen an eine andere Stelle der unteren Hohlvene.) E. Jeger and W. Israel.
78 Preliminary Ligation of Vessels for Exarticulation of Hip Joint. I. Golianizki.

67. **Cleft Palate and Harelip.**—This communication issues from the university clinic at Berlin in charge of Bier and is profusely illustrated; 212 bibliographic references are appended. The early intervention and the Brophy technic are discussed in particular, Kaerger stating his preference for the technic used at the clinic which differs from Brophy's especially in that the alveolar processes are not separated and their position changed. He emphasizes the importance of cooperative supervision, from birth onward, by pediatrist and surgeon, of children with these deformities until they have been finally and completely corrected and approximately normal conditions restored. The surgeon should determine the indications for intervention at the earliest possible moment compatible with the development of the child and its condition as regards nourishment and growth; the various steps of the intervention should be guided according to these indications.

68. **To Promote Healing of Wounds in Parenchymatous Organs.**—After injury, incision or multiple rupture of the liver, spleen or kidney in twenty-two large dogs, the wound healed remarkably promptly and perfectly under a smoothly fitted sheet of fascia tissue with care to aspirate all blood and clots. A water-jet vacuum pump was used to aspirate the blood which it did so effectually that healing was materially promoted, as otherwise there is a tendency to thrombus production after such injuries. The fascia tissue fitted over the traumatized area serves as a living tampon, protecting against secondary hemorrhage, reenforcing sutures and reducing the number of sutures necessary and enabling ligatures to be dispensed with. This is a special advantage in operating on the liver as intrahepatic and analogous ligatures induce a tendency to necrosis. The superficial fascia is convenient for the purpose, and it does not irritate the organ in any way so that there is no disposition to proliferation of connective tissue in response. The fascia can be slit, the kidney drawn through it and the fascia then drawn together below to make a kind of capsule pressing tight on the kidney surface and arresting hemorrhage while coaptating the lips of jagged rupture wounds so that healing proceeds perfectly; all blood and clots are first pumped out with the vacuum pump. The fascia is elastic enough so that no pressure necrosis results, even when it is drawn quite tight, and there is no development later of a cicatricial capsule to entail contracted kidney.

69. **Nail Extension in Treatment of Fracture.**—Riedl applied nail extension in forty cases of fracture of the femur, tibia or calcaneus, and regards the method as almost indispensable in the treatment of serious fracture. It requires constant Roentgen control and should not be applied near discharging wounds.

70. **Sterility of the Bile.**—Toida's research indicates that the bile is sterile under normal conditions but it is a good culture medium for the colon bacillus, enhancing its virulence, while it is an unfavorable medium for the growth of the streptococcus and the pneumonia diplococcus.

73. **Acute Pressure on the Brain.**—In this part of his monograph Breslauer reviews the testimony on hand as to the cause of the unconsciousness with concussion of the brain, and draws the conclusion that it is not the general shake-up of the brain which is responsible for the symptoms with concussion of the brain. Both the clinical and experimental data point to a local injury of the base of the lower part of the brain stem. The general phenomena accompanying concussion of the brain are consequently focal symptoms.

75. **Stenosis of the Biliary Passages without Cancer or Gall-Stones.**—In the three cases reported an operation was done, but if the character of the trouble had been known beforehand, medical-dietetic measures would probably have answered all the indications and proved fully as successful in curing the disturbances. Although such cases are rare, yet they present such a characteristic clinical picture that differentiation is generally possible; the patients have suffered for many years, possibly even from childhood or youth, from intermittent attacks of apparently gall-stone colic without fever, with or without transient jaundice, and without any appreciable influence on the general health, but often with an unmistakable connection with gastro-intestinal disturbances. The cases are usually interpreted as chronic cholecystitis, and the gall-bladder is removed, but the attacks of colic are liable to recur later. The inflammation in the biliary passage probably responsible for the trouble may be secondary to gall-bladder disease, or the gall-bladder trouble may be secondary.

One of the cases reported shows that when the latter is the case, there is no sense in removing the gall-bladder which is only secondarily affected. In his case the colics persisted unmodified and each was preceded and followed by transient jaundice without fever. There is much to sustain the assumption, Berg thinks, that the aggravation which followed the removal of the gall-bladder was due to the loss of the assistance previously furnshed by the contractions of the gall-bladder in the work of cleaning out the stenosis from accumulations of pigment and mucus, etc. In every such case the question should be debated whether the removal of the gall-bladder does in fact represent the elimination of the most important source of the irritation. If the gall-bladder is of comparatively sound aspect and if it contains stones, it had better be left intact and merely the stones removed.

It is useless to drain the gall-bladder or the hepatic duct in these cases, while it is liable to entail severe infection. The laparotomy therefore should be exploratory, examining the bile, the gall-bladder, the hilus of the liver, the duodenum and the pancreas. Weighing the findings in connection with the history of the case will be the guide to treatment which should be conservative-surgical. Dieting and care of the stomach and duodenum are the most important measures for curing the morbid tendency. The non-malignant stenosis in question is liable to modify the chemical composition of the bile to such an extent as to lead to production of concrements in the gall-ladder or even in the liver.

76. **Prostatectomy.**—Grinenko insists that the prostate has no capsule of its own and that there is no anatomic justification for speaking of it as separated into lobes. He regards the transvesical operation as the only rational method; this removes the peri-urethral adenoma causing the trouble while the prostate proper is left approximately intact.

Berliner klinische Wochenschrift

January 12, LI, No. 2, pp. 49-96

79 Traumatic Epilepsy from Firearm Wound; Fascia Graft; Recovery. H. Coenen.
80 Aviators' Injuries. (Fliegerverletzungen.) Marx.
81 Radium in Treatment of Cancer. Weckowski.
82 Treatment of Inoperable Tumors. H. Simon.
83 Mesothorium in Treatment of Superficial and Internal Cancer. E. Kuznitzky.
84 Importance of Contact Infection in Cholera. Aumann.
85 Serotherapy in Scarlet Fever. (Zur Theorie des Scharlachs.) A. Cederberg.
86 Influence of Diet on Sugar Content of Blood in Diabetes. L. Wolf and S. Gutmann.
87 Female External Pseudohermaphrodite with Hyperplasia of Adrenals. C. Benda.
88 Choked Disk in Rats after Intracranial Injection of Sarcoma Extract. (Zur Entstehung der Stauungspapille.) A. Rados.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

January 15, XVIII, No. 1, pp. 1-140

89 *Diagnostic Puncture of the Brain. (Die Neisser-Pollack-sche Hirnpunktion.) E. Röper.
90 *The Spleen Function. (Milzfunktion.) A. Meyer.
91 *Perforated Gastric Ulcer. (Das perforierte Magengeschwür.) J. Schoemaker.
92 *Functional Tests of the Kidney. (Funktionelle Nephritisdiagnostik.) L. Borchardt.

89. **Puncture of the Brain.**—Röper reviews the history, technic and results of puncture as set forth in sixty-one articles in German literature. All agree that it has proved an extremely useful aid in the diagnosis, but the general opinion seems to be also that it should not be attempted outside of well-equipped hospitals. This is particularly necessary as the puncture may indicate the necessity for trephining at once. On account of the fatal prognosis of a brain tumor, the slight danger from the exploratory puncture may well be overlooked. The puncture alone may relieve to such an extent that trephining may not be necessary. Röper concludes his review with the remark that his experience with necropsies impresses on him more and more that puncture of the brain is not applied often enough. The information to be derived from it is naturally of greatest interest for neurologists and internists, and he hopes that they will learn to appreciate its importance better.

90. **Functioning of the Spleen.**—This review embraces 363 articles which are listed by titles. There seems much to sustain the assumption that some substance is produced in the spleen which causes or promotes peristalsis, in addition to its function as the seat of destruction of blood corpuscles.

91. **Perforated Gastric Ulcer.**—The literature since 1902 is listed and reviewed; it shows a total of 748 operative cases of perforated gastric ulcer, with mortality of 357. This is not much of an improvement over the 48 per cent. in the 387 cases compiled by Brunner in 1903. Progress must be along the lines of earlier diagnosis. In 176 recent cases only sixty-nine of the patients were able to have the operation done within the first ten hours; in fifty-one cases there had been an interval of over twenty-five hours. This compilation fits in with Brunner's, so that the two comprise the international literature 1897-1911.

92. **Estimation of Renal Functioning.**—Borchardt recapitulates the result of recent research on the functioning of the kidneys in health and disease, and remarks that the important points recently learned in respect to the renal elements involved in various forms of nephritis render the outlook very promising for further research along the same lines to complete our knowledge of kidney function. Study of the glomerular and of the tubular diuresis, separately, may prove very instructive. The water test may be regarded as giving information in regard to tubular diuresis. With red granular kidney the tubular diuresis seems to be intact, while with secondary contracted kidney and the combination form, tubular diuresis is lacking. With mild nephritis, more urine is voided during the day than at night, as the food has a diuretic action on the sensitive kidneys. With severe tubular disease, the contrary is observed; there is no oversensitiveness of the kidneys and no tubular water diuresis during the day. It is possible that the badly damaged kidney may recuperate to such a degree during the night that this alone would explain the more copious excretion of urine at night. Volhard's test for the concentrating capacity of the kidney reveals whether there is hyposthenuria or not. The Vaquet and Cottet test yields no information in regard to glomerulus functioning, but throws much light on tubule functioning. Borchardt says of the phenolsulphonephthalein test that it does not seem to be applicable to pregnant women; positive findings have been reported in apparently entirely normal persons giving a constantly negative response to other tests. It would be interesting to apply this test in dubious cases of kidney trouble without albuminuria or tube casts, or in cyclic or orthostatic albuminuria. He does not know of any reports of its application in such cases.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 3, XLIV, No. 1, pp. 1-32

93 Serodiagnosis of Pregnancy. P. Hüssy and E. Kistler.

January 10, No. 2, pp. 33-64

94 *Differentiation of Human and Bovine Tubercle Bacilli from Human Lesions. W. Schürmann and R. Buri.
95 Paratyphoid Food Poisoning. (Nahrungsmittelvergiftungen durch Bakterien der Coli-Paratyphusgruppe.) R. Massini. Commenced in No. 1.

January 17, No. 3, pp. 65-96

96 *Somatic Basis for Dementia Praecox. E. Fankhauser.
97 Examination of Recruits for Hernia. (Untersuchung auf Unterleibsbruch.) C. Kaufmann.

94. **Differentiation of Human and Bovine Tubercle Bacilli.**—Schürmann and Buri state that there are about 1,441 cases of human tuberculosis on record in which the bacilli were cultivated with a view to determining whether they were of the human or bovine type. The bovine type was found in 8.1 per cent. of the total, and mixed in 0.5 per cent. The bovine type was found only in children. The present article is the first in Switzerland along these lines, and reports the outcome of bacteriologic study in seventy-five cases of tuberculosis of different organs. The bacilli of both types resemble each other so closely that it is difficult if not impossible to distinguish between them on culture media, but subcutaneous injection of ground tuberculosis tissue into rabbits solves the problem in the most rapid and simplest manner. None of the patients from whom the material was derived was under the age of 16, and in none was the bovine tubercle bacillus discovered.

96. **Somatic Basis for Dementia Praecox.**—Frankhauser comments on the way in which the latest research has demonstrated microscopic changes in the brain with dementia praecox which seem to be the work of abnormal functioning on the part of certain of the ductless glands, especially the thyroid and the genital glands. The blood picture also seems to be modified and possibly also the lymphatic organs. All the newly learned data from serology also confirm the assumption of a somatic basis for the trouble.

Deutsche medizinische Wochenschrift, Berlin

January 8, XL, No. 2, pp. 57-104

98 *Convulsions. (Behandlung der allgemeinen Krämpfe.) Grober.
99 *The Question of Thrombosis. H. Ribbert.
100 *Auxo-Autolytic Substances in Serum Promoting Action of Enzymes. H.
101 *Origin of Cancer E. Weiss.
102 Heart Disturban (Herzstörungen nach Unfall.) P. Horn.
103 *Importance of Repeated Graduated Tuberculin Skin Reaction in Systematic Treatment of Pulmonary Tuberculosis. H. Kögel.
104 Scleroma in Germany. (Die epidemiologische Bedeutung des Skleroms der oberen Luftwege für Deutschland.) E. P. Friedrich.
105 Radiotherapy of Tumors. (Strahlenbehandlung von Geschwülsten.) H. Sellheim. Commenced in No. 1.
106 *Repeated Chilling of the Feet as Factor in Contracted Kidney. (Zur Aetiologie der Schrumpfniere.) Engelen.

98. **General Spasms.**—Grober in commenting on the differentiation of an epileptic seizure from hysteria, says that the former corresponds to changes in a circumscribed portion of the brain and consequently the spasm is restricted to certain movements and the reflexes are liable to be lost. Only exceptionally is the pupil reflex lacking in hysteria and when this occurs, it suggests a possible combination of hysteria and epilepsy. He has had several cases in which the convulsions of hysteria developed in the course of years into true epileptic seizures. The epileptic seizure occurs more suddenly than the hysteric. If the pulse and respiration are good, Grober places the patient on a bed or sofa pushed against the wall, with the backs of chairs against the outer side of the bed, the wall and chairs protected with blankets or cushions so that no physical injury can occur. Then he insists on quiet and expectant treatment, merely striving to rouse the patient by moral suasion. Violent measures such as a box on the ear would rouse the patient, but would destroy his liking for and trust in the physician, which are especially important in the management of hysteria. If the spasm keeps up over an hour, 3 to 5 gm. chloral might be given in an enema.

Nothing will break up an epileptic seizure, and the physician can only watch over the patient in bed, refraining from any interference, allowing the patient to rouse naturally. If the pulse and respiration keep good, the seizure may last for an hour without harm; bromid or chloral might then be given, but never by the mouth. If the seizures keep up for hours, one is justified in cautiously putting the patient under the influence of chloroform or morphin. In toxic convulsions, purges, venesection, sweating procedures, copious drinking of milk or alkaline water, copious and long continued rinsing out of the stomach may be indicated. Lavage of the stomach may ward off further spasms in acute gastro-intestinal catarrhal affections that have brought on tetany or convulsions. Full warm baths for fifteen to forty-five minutes or application of superheated air may prove useful, aborting further spasms by cold packs to head and chest. In tetanus the slightest jar or movement may bring on new convulsions, so that the care of the patient with tetanus is of vital importance. Even the act of swallowing may be dangerous. Many tetanus patients succumb to pneumonia from fluid or food getting into the air passages. Long full warm baths may quiet the patient in mild forms of tetanus, but there is danger of bringing on more spasms as he is moved into the bath. Superheated air baths have done good service in the experience of some. When the muscles of respiration share in the contracture, artificial respiration becomes necessary, but the ordinary procedures are blocked by the rigid contractures and nothing more than cautious rhythmic compression of the lower circumference of the chest can be applied with or without the oxygen tank.

With rabies, any noise, any movement, even of the air, is liable to bring on the spasm. Only the strongest narcotics bring relief here; the maximal dose of morphin may give the patient a few hours' respite. Chloroform increases the agitation; the subcutaneous narcotics are better.

99. **Thrombosis.**—Ribbert thinks that there is great practical importance for the prophylaxis of thrombosis in the results of recent research which indicate that an enhanced tendency to coagulation is responsible for the development of thrombosis. The primary cause seems to be some change in the inner surface of the vessel. Disturbances in the circulation add their share, but the main reason why the thrombus forming under these conditions is not harmlessly dissolved away again is because the blood is abnormally prone to clot, and this tendency to abnormally early and intense coagulation is generally under medicinal control.

100-101. **Further Research on Serodiagnosis.**—Guggenheimer has continued his research on the influencing of fermentative processes by human serum, and has found that while normal serum checks autolysis of organ tissues, the serum in certain pathologic conditions promotes the autolysis of human brain and rabbit liver tissue. Serum from pregnant women behaves like normal serum in this respect, checking autolysis, while placenta extract, on the contrary, promotes autolysis.

Weiss announces that similar tests showed an opposite behavior also on the part of the serum from patients with gastric cancer and normal serum. This renders plausible the assumption that something is lacking from the serum of certain persons and that this lack permits the cells to proliferate unchecked, with cancer as the result, at points exposed to special mechanical stress or irritation. It may be possible, he adds, to isolate from normal serum the element in question, the lack of which permits malignant proliferation of cells, and utilize this element in prophylaxis and treatment of cancer. The work is a preliminary communication from the Tübingen clinic for nervous and mental affections, and experiments are now under way with tissue extracts made from various parts of the stomach, with the aim to differentiate not only the cancer itself, but its very site in the stomach by the protective ferment formed on parenteral injection of the extract in question.

103. **The Graduated Tuberculin Reaction.**—Kögel declares that the Pirquet skin tuberculin test is practically valueless unless it is applied with graduated strengths. For this he commends the Ellerman-Erlandsen tuberculin titer method described in THE JOURNAL, 1909, lii, 1634. To be conclusive it must be applied repeatedly.

106. **Causes of Contracted Kidney.**—Siegel reported in 1908 that acute nephritis had developed in some dogs who stood in cold water for a time. It is a familiar experience that getting the feet wet often starts a "cold," bronchitis or ear affection, or even acute nephritis. Excessive perspiration of the feet keeps them clammy, and Engelen regards this as an important factor in kidney disease. He has found a history of hyperhydrosis pedum in every case of contracted kidney in persons free from arteriosclerosis, gout, syphilis, acute nephritis, lead poisoning, alcoholism and general dissipation. In one instance the apparently primary contracted kidney trouble developed in the forties in a brother and two sisters all of whom always suffered from excessive sweating of the feet. The constantly positive history in his exceptionally wide experience with contracted kidney, suggests the necessity for prophylactic measures, keeping the feet dry, controlling the tendency to excessive sweating by the usual formaldehyd treatment.

Medizinische Klinik, Berlin

January 11, X, No. 2, pp. 47-90

107 Vaccine Therapy in Gonorrhea. C. Bruck.
108 *Early Diagnosis and Modern Treatment of Blood Diseases. (Blutkrankheiten.) H. Hirschfeld.
109 *High Frequency Currents in Treatment of Arteriosclerosis. A. Bühler.
110 Expulsion of Entire Lining of Esophagus after Drinking Lye; Two Cases; Recovery in One. E. Liebmann.
111 *Dissolving Capacity of the Blood Serum. (Lösungskunst im Serum.) H. Schade.

108. **Treatment of Blood Diseases.**—Hirschfeld says that it is generally possible to find some preparation of iron that the patient can take, but arsenic is useful when the number of blood corpuscles is much below normal and there is little response to iron. Milk contains extremely little iron, so it need not be forced on the anemic as is often done. Small amounts of alcohol have a stimulating action on some anemic patients while others are unable to stand it. There is no deficiency in iron in pernicious anemia, but with repeated courses of arsenic it is possible sometimes to keep patients in good condition for years, even sometimes retaining their earning capacity. The patient should be kept under constant supervision so that the arsenic can be promptly resumed at the first signs of a relapse; iron may then prove useful also when the arsenic fails. In pernicious anemia, hydrochloric acid and pepsin must be given persistently. Transfusion of blood has sometimes done service but never realized a cure.

The reports to date on benzol treatment of leukemia are encouraging on the whole, but extreme caution is necessary, as in some instances the leukocytes dropped below the normal figures and death soon followed. The combination of radiotherapy and benzol seems most promising. It does no good to remove enlarged leukemic lymph-nodes as the trouble is systemic. If they are compressing organs or nerves they can be reduced in size by exposure to the Roentgen rays or radium. The leukemic lymph-node seems to heal faultlessly after an operation. Splenectomy in myeloid leukemia usually proves speedily fatal; only one case is known in which the patient survived, and the leukemia did not seem to have been influenced in the least. Some clinicians have reported excellent results from splenectomy in pernicious anemia, but others have had only some improvement; the blood picture never returned quite to normal.

109. **The High Frequency Current in Arteriosclerosis.**—Bühler has been applying electricity in this form in 266 cases of arteriosclerosis. The blood-pressure was above 130 mm. in all but thirty-six, and in nearly every case the application of the high frequency current for about ten minutes caused a reduction of 5 or 10 mm. in the blood-pressure. In 120 cases with minute records, the average blood-pressure was 174 mm. at first and after seven sittings it averaged only 146 mm., a decline of 15 per cent. Reexamination a few months or years later showed that the reduction had been permanent in a number while in others the pressure had gradually risen again to its old figure. He explains the benefit as the result of a relaxing of the musculature of the vessels under the influence of the electricity on the nerves. The artery walls thus relaxed become more flexible and oppose less resistance to the pulse wave.

111. **The Dissolving Capacity of the Serum.**—Schade expatiates on the fundamental importance for medicine of the physicochemical properties of the blood serum. Beyond the

reach of the microscope but accessible to physicochemical research, the serum is found to possess a wonderful faculty for diffusion, dialysis, osmosis, ionization, influencing colloids, and forming intermediate colloids. The simplest and most accessible element of the body, it reveals what is going on in the cells, and the general practitioner should keep abreast with the progress of serology as it offers the key to manifold problems of clinical medicine, as Schade reviews in detail.

Münchener medizinische Wochenschrift

January 18, LXI, No. 2, pp. 57-112

112 Exanthematous Typhus and Rose-Colored Spots. (Fleckfieber und Roseola.) E. Fraenkel.
113 Disease Resembling Psychic Epilepsy among Pacific Islanders. (Die kalte Waldkrankheit der Chamorro.) A. Leber.
114 The "Syphilitic Index." B. P. Sormani.
115 Practical Importance of the Quantitative Wassermann Reaction. F. Lesser.
116 The Skin Reaction to Organ Extracts. (Zur Technik der Pallidinreaktion.) E. Klausner.
117 Technic for Serodiagnosis. J Bronstein.
118 Dosage in Roentgen Work. R. Kienböck.
119 Registration of Auricular Pulse by Way of the Esophagus. A. Weber.
120 Abderhalden's Dialysis Serodiagnosis. H. Oeller, R. Stephan and A. Mayer. Concluded.

Therapeutische Monatshefte, Berlin

January, XXVIII, No. 1, pp. 1-80

121 *Tuberculin-Mercury Treatment of General Paresis. (Die Tuberkulin-Quecksilberbehandlung der progressiven Paralyse.) W. v. Jauregg.
122 *Dangers of Salvarsan. (Gefahren der Salvarsantherapie.) F. Luithlen.
123 Thorium X Treatment in Internal Diseases. C. v. Noorden.
124 *Atropin in Stomach Disease. (Atropinkuren bei Magenkrankheiten.) D. Pletnew.
125 Serotherapy of Scarlet Fever. Moog.
126 Successful Vaccine Therapy in Severe Pyelitis from Bacterium [illegible]in.
127 T[illegible] (Zum Wortzeichenschutz von

121. **Mercury Treatment of Progressive Paralysis.**—As long ago as 1887, Wagner von Jauregg published articles on the influencing of nervous and mental disease by an intercurrent febrile affection, even to the letting up of the symptoms of multiple sclerosis after an infectious sore throat. He has since accumulated considerable therapeutic experience in this line, which was the basis for his systematic treatment of general paresis with tuberculin; this he commenced in 1890. During that year he applied the tuberculin treatment in 69 cases of progressive paralysis and has been able to trace the history of 66 and also of 66 other patients under approximately the same conditions at the time and later except that no tuberculin had been given. Pilcz reported in 1910 a similar series of 60 patients. In a later series of 25 cases Wagner supplemented the tuberculin with mercury, as also Pilcz in a series of 86 cases. Meyer, Tamburini in Italy, Glouschkoff in Russia and others have also reported experiences in this line. The condition improves in nearly all the early cases to such an extent that the patients can return to business. Even in the advanced cases notable improvement may be realized and even complete remission in some cases. He has three patients restored to active business life, some with six or seven years to date of regained earning capacity. In the majority of cases, however, after a year or two of active business life the symptoms returned, but resumption then of the treatment was followed anew by a prolonged remission. The let-up in the symptoms begins during the treatment and continues to progress for several weeks thereafter. The regularity and constancy with which this occurs excludes any casual coincidence or a spontaneous remission; the extent to which the symptoms subside is also beyond anything observed in spontaneous remissions. He begins with 0.01 mgm. old tuberculin if there is no suspicion of tuberculosis; only a tenth of this dose is given when there is tuberculosis. The injections are made subcutaneously on alternate days or the third day increasing the dose to a final 1 mgm. This requires from eight to fifteen injections. He gives the mercury on the days between.

122. **The Dangers of Salvarsan.**—Luithlen's analysis of the mishaps after salvarsan shows, he says, that they are avoidable. All that is necessary is to determine the contraindications for it and keep the dosage reasonable. The dose of salvarsan should never be over 0.3 or 0.4 gm. All persons should be excluded from salvarsan treatment who are in a state of depressed vitality from any cause outside of the syphilis, or have any signs of cardiovascular injury or kidney trouble, chronic poisoning from alcohol, nicotin or lead, or infectious disease, including florid syphilis itself. Salvarsan, he reiterates, should never be given in the secondary stage of syphilis; it is not only injurious in this phase, but is much less effectual than mercury. Especially dangerous for salvarsan treatment are concomitant tuberculosis, severe gastro-intestinal disease and affections of the nervous system accompanied by destruction of pathologic tissue liable already to cause disturbance. Pregnancy is also a contra-indication on account of the changes in the vessels which seem to accompany pregnancy. Mercury should be given also unless the kidneys are pathologic; not only the albumin, but the diuresis should be heeded. He mentions that the latest compilation ascribes 274 fatalities to salvarsan, including 41 in nonsyphilitics; the injection had been subcutaneous in 9; in 28 into a muscle, and intravenous in the others. When the salvarsan has a toxic action, the symptoms which appear promptly are the work of the salvarsan as a whole; these then subside completely and only later, after a longer or shorter interval, other symptoms may develop which are the work of the arsenic as the salvarsan compound breaks up. He calls these the primary and the secondary toxic phases.

124. **Atropin in Stomach Disease.**—Pletnew expresses amazement that so little use is made of atropin in treating abnormal conditions in the stomach resulting from abnormal excitability and overaction of the vagi. He has made a special study for years of indications for and results of a course of atropin treatment in stomach affections, and states that it can be relied on when secretion or motor functioning or both are deranged or there are anatomic lesions in the stomach wall. He relates some typical cases in each of these three categories. Atropin checks secretion, reduces acidity, combats pylorospasm and hour-glass spasm, and relieves the pains, as the spastic conditions are the effect of excessive secretion of hydrochloric acid. The more acid the stomach content, the longer the pylorus waits before opening. Atropin, of course, has only symptomatic action, but in this field it renders most valuable service. Morphin also checks the pain but this is followed later by a stage of increased secretion. (See Spitzig on "Vagotony and Mucous Colitis" in The Journal, Jan. 31, 1914, p. 364.)

Virchows Archiv, Berlin

CCXIV, No. 3, pp. 321-476

128 Origin of Plasma Cells. P. G. Unna. Commenced in No. 2.
129 Significance of Plasma Cells in Pneumonia in Children after Acute Infectious Diseases. J. Watjen.
130 Tumors in Rabbit Uterus. H. Stilling and H. Beltzke.
131 *Internal Hemorrhagic Pachymeningitis. Boeckmann and F. Wohlwill.
132 Changes in the Hypophysis in Experimental Diphtheria. S. Abramow.
133 Nerve Pigment in Parrots. (Das Nervenpigment beim Papagei.) M. Muhlmann.
134 *Changes in the Gastric Mucosa after Removal of Adrenals in Animals and the Experimental Production of Gastric Ulcers. O. Finzi.
135 Gastric Ulcer Caused by Hyphomycetes. W. J. Ljublmowa.
136 Polypous Gastritis. E. Meulengracht.
137 Multiple Soft Plaques of the Bladder, a Form of Follicular Cystitis. (Malakoplakie der Harnblase.) E. Wetzel.
138 Glycogen in Smooth Muscles Normal. (Beobachtungen über Glykogen in der glatten Muskulatur.) J. de Kalbermatten.
139 Histogenesis of Tuberculosis of Lymph-Nodes. E. Joest and E. Emshoff.

131. **Internal Hemorrhagic Pachymeningitis.**—Boeckmann gives a brief report of the autopsy findings in fifty-seven cases of internal hemorrhagic pachymeningitis with a view to determining to what extent trauma and hemorrhage are involved in the causation of the disease. He concludes that the importance of trauma has been very much exaggerated and that, in a healthy individual, trauma and aseptic hemorrhage cannot cause it. Its frequent appearance in the course of progressive paralysis would seem to indicate an inflammatory circulatory origin.

Wohlwill reports thirty-seven cases and states his opinion that the internal hemorrhagic pachymeningitis is due to a primary proliferation of the subendothelial tissue, probably from some preceding lesion of the endothelium. In the material from a general hospital, infectious diseases are the chief cause; alcoholism is not very important. The disease is frequent in children, especially in infants. Birth trauma is responsible in a great many of these cases.

134. **Effect on the Stomach of Removal of the Adrenals.**—Tinzi describes a series of experiments on rabbits and dogs and five autopsies on human subjects. In the animals after complete or partial abolition of adrenal functioning there were marked changes in the mucous membrane of the stomach consisting in circulatory disturbances, edema, hemorrhage and necrotic processes, the severest of which only exceptionally showed even slight tendency to heal. His reasons for assuming that the stomach lesions were caused by the adrenal disturbance are because they were less severe and recovered more readily when only one adrenal was removed; because they were not found in a rabbit which in spite of removal of the adrenals, showed no signs of decreased adrenal function; because the stomach lesions were not found when the operation consisted simply in removing the adrenal capsule, and because they were lacking when the rabbits after removal of the adrenals were given epinephrin or adrenals were transplanted from other rabbits. In five cases of stomach or duodenal ulcer in human beings, microscopic examination showed marked changes in the adrenals, thickening of the capsule, nodular hypertrophy, fatty degeneration, great congestion and multiple hemorrhages.

Wiener klinische Wochenschrift, Vienna

January 1, XXVII, No. 1, pp. 1-20

140 *Duodenal Ulcer. E. Schütz.
141 Inhibiting Influence of Gestation on Rat Sarcoma. (Einfluss der Gravidität auf das Wachstum maligner Tumoren.) E. v. Graff.
142 Typhoid Bacilli Found in Duodenal Contents Obtained through Tube. B. Purjesz.
143 *Nourishment during Pregnancy and Weight of the Child. (Gewicht des Neugeborenen und die Ernährung der Mutter.) J. Bondi.

140. **Duodenal Ulcer.**—Schütz advocated an operation in only seventeen of his 137 cases of duodenal ulcer; 87 per cent. of the total patients were men. He is convinced that progress will be along the lines of internal treatment alone. He calls attention to the fact that the symptoms of duodenal ulcer—the duodenal syndrome—has long been known, but not correctly interpreted. It has been ascribed to a neurosis and all older physicians have had typical cases of this kind dragging along for years into an advanced age or sometimes subsiding completely, showing that a complete cure is not only possible but common. The diet with duodenal ulcer, he insists, should be different from the gastric ulcer diet. With the latter the diet should be restricted in quantity and quality to spare the stomach irritation, but this is less necessary with duodenal ulcer. Instead of fluid food which passes rapidly along, more compact food is needed with duodenal ulcer; this lengthens the period before the pains come on. Food should be given in small amounts at intervals not longer than three hours at most, not allowing the stomach to become empty, even during the night. A further important measure is to neutralize the excess of acid in cases with hyperacidity and hypersecretion—which is the rule with duodenal ulcer—by giving large doses of alkalies in combination with belladonna. He advises this regimen in eating to be kept up even during the intervals, supplemented by mental and physical rest and treatment of the common nervous disturbances. Another important measure is to ward off getting chilled or catching cold; this may require extreme precautions during the cold weather. A course at Carlsbad may often prove useful. Treatment on these principles has given him very favorable results in numbers of cases, not only in reducing the severity of the attacks but in modifying the predisposition. In many cases all disturbances subsided soon after beginning treatment, even when the periods of pain had lasted for months or had been recurring more and more frequently. In a few cases no benefit was derived from these measures until they were supplemented by application of cataplasms and a rest cure, with exclusive milk diet.

143. **Diet during Pregnancy and the Weight of the Child.**—Bondi does not agree with Peller, whose work on this subject was reviewed editorially in The Journal, Jan. 31, 1914, p. 382. The weight of the child is independent of the mother's diet during pregnancy, he affirms, but there is a direct connection between the chemical substance of the mother and of the fetus. Neumann has recently announced that the serum of the child contains far more mineral salts than the mother's serum; for this reason he advocates giving unusual amounts of the mineral salts during a pregnancy. Dibbelt witnessed the development of disturbances resembling osteomalacia in gravid rabbits kept on calcium-poor feed; the skeleton of the young seemed to be apparently normal. Bondi thinks that measures to increase the weight of the child are liable to do more harm than good, as increasing the difficulty of delivery; especially among the poor in whom the rachitic pelvis is so common, it is directly injurious to increase the weight of the fetus.

Zentralblatt für Chirurgie, Leipsic

January 17, XLI, No 3, pp. 89-136

144 Operations on Vessels O. von Frisch and A. Henle.
145 Technic for Operation on Mammary Cancer. (In welcher Ausdehnung ist die Haut bei der Operation des Mammakarzinoms mit zu entfernen?) L. Moszkowicz.
146 Operative Treatment of Varicocele. E. Istomin.

Zentralblatt für Gynäkologie, Leipsic

January 17, XXXVIII, No. 3, pp. 113-152

147 Successful Treatment of Sciatica during Pregnancy with Ringer's Fluid. A. Barbey.
148 The Campaign against Gonorrhea. (Warum konnte die Blenorrhoe nicht abnehmen?) Credé-Hölder.
149 Hypophysis Extract Intravenously in Treatment of Post-Partum Hemorrhage. P. Kreiss.
150 Triplet Pregnancies. (Zur Kasuistik der Drillingsgeburten.) P. Gall and Z. Diamant.

Policlinico, Rome

January 11, XXI, No. 2, pp. 41-76

151 *Roentgen Treatment of Surgical Tuberculosis. G. Scaduto.

January 18, No. 3, pp. 77-112

152 *Iodin Sterilization of Silk. (Metodo semplice e rapido di sterilizzazione della seta per sutura.) G. Liotta.

151. **Roentgen Treatment of Surgical Tuberculosis.**—Scaduto has only five cases to report, but the benefit from exposures to the Roentgen rays after operative treatment was so pronounced that he urges this combination as great progress. The tuberculous processes were in the knee or elbow, and he applied the rays from four directions and repeated the exposures every two weeks, for three, five or eight months. One boy of 6 had a tuberculous process in the sternum and it healed in less than six weeks after the focus had been curetted; only three exposures had been required in this case.

152. **Iodin Sterilization of Silk.**—Liotta winds a single length of the silk in a single layer on a glass slide. The slide is then immersed in tincture of iodin for from five to ten minutes for number 1 to 4 silk. He has been using this method of sterilization constantly for three years with perfectly satisfactory results, and commends it to those who do not have laboratory facilities at hand.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

II, No. 16, pp. 1347-1442

153 *When is Arthrodesis Required in Epidemic Poliomyelitis? H. A Laan.
154 *Action on Ovum of Superfluous Semen. (De beteekenis van het overtollige sperma voor de vrucht.) G. C. Nijhoff.

153. **Joint Fixation for Paralysis after Poliomyelitis.**—Laan remarks that too much is expected of tendon transplantation, and arthrodesis is liable to be done too soon, while Lorenz expects much from massage and forcible manual correction and warns against too ready resort to tendon transplantation or arthrodesis. What Lorenz has done for the Germans, Laan wishes to do for the Netherlanders, namely, to declare with all emphasis that joint fixation is seldom necessary and should never be done on children. He has seen complete

paralysis of the feet markedly benefited by the wearing of ordinary lace-shoes. If the resulting damage were better recognized, other methods would be employed in preference. Laan reiterates that the prevention of deformity is of prime importance; once developed, the deformity can be attacked by redressment or osteoclasis depending on the character and severity of the deformity and the age of the patient. Prevention of recurrence is of great moment and in many cases very difficult, especially among young patients; with grown persons it is much easier because growth has ceased and the tendency to recurrence is less. It is in these adult cases that the various methods of redressment, of tendon-transplantation or arthrodesis in its various methods can be employed. Laan is opposed to arthrodesis of the hip and knee; if it is necessary it must be a bony ankylosis. With drop-foot, in at least half the cases the joint works loose again. Even with perfect bony ankylosis, the patient often complains of unevenness of the soles and loss of endurance.

Laan is a strong advocate of silk ligament suspensions in cases not indicating arthrodesis. But for the shoulder, even Lorenz favors ankylosis of the shoulder on account of the anatomic construction and the nature of the paralysis. With paralysis of the deltoid muscle, the use of the joint is lost and all lifting movements of the upper arm have become impossible. The shoulder is moved principally by the deltoid muscle and the short muscles serve to form the scapula and the upper arm into a unit. This unit itself is moved by other muscles, attached to the scapula and humerus. When this fixation has become impossible, owing to paralysis, it must be reestablished. There are three methods to accomplish this: braces, arthrodesis and tendon transplantation. The brace is very unsatisfactory, and transplantation of tendons does little service here. Thus arthrodesis is the only resort, and this may give good results.

154. **Action on Ovum of Superfluous Semen.**—The text-books on physiology cite the countless numbers of spermatozoa at a single emission as an instance of the prodigality of nature when dealing with the perpetuation of the type, but Nijhoff has become convinced by the results of recent research that the superfluous spermatozoa may play an important part in the nourishment of the ovum. Spermatozoa have been seen to work their way into the mammalian ovum after the second, fourth, sixth and even eighth divisions. These spermatozoa entering the ovum after the impregnating spermatozoon may supply material for growth, but they can also be a vehicle for transmission of disease; the superfluous spermatozoa may come from another individual than the impregnating one. Possibly tuberculosis, syphilis and lead poisoning may be carried to the embryo in this way. It has been experimentally demonstrated that tubercle bacilli injected into the vagina may find their way inside the embryo. Nijhoff emphasizes that it is possible and probable that more harm may be done to the embryo by the superfluous spermatozoa than by the single one responsible for the fecundation of the ovum.

Nijhoff thinks that Constantin Paul's study of the effects of lead poisoning on the offspring is noteworthy from this point of view. Of the 142 pregnancies among women suffering from lead-poisoning, only forty-five resulted in a viable child and twenty of these died the first year; only ten survived past the third year. Almost similar figures have been published regarding the noxious influence of mercury and alcohol poisoning on the offspring.

Hospitalstidende, Copenhagen

January 14, LVI, No. 2, pp 33-64

155 Differentiation of Dementia Praecox in Its Acute Stage in Hard Drinkers. (Om kroniske Alkoholpsykoser.) G. Neve

Hygiea, Stockholm

December, LXXV, No. 12, pp. 1233-1408

156 Research on Artificial Respiration. (Undersökninger öfver ventilationen vid konstgjord andning hos människa.) G. Liljestrand, G. Wollin and J. O. Nilsson.
157 Complications of Suppurative Nasal Sinusitis, especially with Scarlet Fever. (Några ord om bihåleempyemens komplikationer, speciellt vid scarlatina, jämte ett kasuistiskt bidrag.) N. Witt.
158 Papyraceous Fetus. (Till frågan om de s. k. pappersfostren.) C. F. Heijl.

Norsk Magazin for Lægevidenskaben, Christiania

January, LXXV, No. 1, pp. 1-184 and Supplement

159 Summer Infant Mortality. (Sommerdødelighet blandt spædbarn i Kristiania.) L. Nicolaysen.
160 *Relief of Dysphagia in Laryngeal Tuberculosis. (Behandling av svelgsmerter hos larynkstuberkulose.) O. S. Wetterstad.
161 Transverse Presentation: One Hundred and Two Cases. (Om tverleie.) Drejer.
162 *Diagnosis of Earliest Stage of Tuberculosis in Children. (Diagnosen av barnetuberkulosens kliniske initialformer.) H. G. Gade.

160. **Treatment of Difficulty and Pain in Swallowing with Laryngeal Tuberculosis.**—Wetterstad discusses the various methods in vogue for this purpose, saying in conclusion that injection of alcohol around the nerve involved in the trouble seems to give the best results, while it is a very simple and apparently harmless procedure. By the technic advocated by Hoffmann, 85 per cent. alcohol is injected around the superior laryngeal nerve, introducing the needle from the side of the neck, along the lateral thyroid-hyoid ligament. Boncour makes the injection on the median line between the body of the hyoid bone and the angle of the thyroid cartilage. Wetterstad followed the first technic in six cases and the second in four, all the patients suffering severely from their advanced laryngeal tuberculosis. Complete relief from pain followed the injection, the relief persisting for fifteen or thirty days or longer. The injection seems to be easier and freer from pos ble complications when made in the median line.

162. **Diagnosis of Incipient Tuberculosis.**—Gade says that at the seaside sanatorium at Hagevik during the last five years there were only seventy-nine of the 1,150 children who had a tuberculous process in and probably restricted to the bronchial lymph-nodes. He reproduces sixteen of the 850 Roentgen pictures of lungs which he has taken, insisting on the fact that when the bronchial lymph-nodes have become enlarged, the tuberculosis has passed beyond its initial stage. It seems impossible really to detect the tuberculosis in its incipiency, but roentgenoscopy will reveal it in a much earlier stage than any other diagnostic measure.

Ugeskrift for Læger, Copenhagen

January 8, LXXVI, No. 2, pp. 45-92

163 *Diagnosis of Epidemic Poliomyelitis and Treatment in Acute Stage. Monrad.

January 15, No. 3, pp. 93-150

164 Treatment of Sequels of Epidemic Poliomyelitis. H. C. L mann.
165 Calculation of Doses for Children (Beregning af Doser til Børn.) L. P. Sørensen and V. Sche

163. **Epidemic Poliomyelitis.**—Monrad describes the poi which are most useful to differentiate this disease from oth with which it may be confused, especially acute rheumati meningitis, appendicitis and polyneuritis. In some cases was erroneously diagnosed as dislocation of the humerus or hip-joint or fracture. Slight fever, vomiting and headache with more or less drowsiness are generally noted in the incipient stage. The mortality seems to be higher for older children and adults, and the fourth day seems to be the most critical one. The large number of abortive cases reported from the epidemics in Sweden suggests that there may have been a mistake in diagnosis. Monrad protests against too active treatment in the acute stage; he insists on absolute quiet, keeping the patient still in bed as long as there are signs of general infection or acute local disturbance, and during this period, which may last for three or six weeks, all treatment with electricity, massage or passive exercises should be carefully avoided, as the patient should be left in absolute repose. He denounces even baths, which are recommended here and there, "and are applied especially in North America." The position in bed must be comfortable and the limbs kept in good position, without pressure from the bed clothes, etc. It is important, he adds, to keep the bowels in good order, as the paralysis may involve the abdominal muscles. The only drugs he uses are mild sedatives to enable the child to rest and sleep. An important point in treatment of poliomyelitis is to tranquilize the family, reassuring them that the disease often ends in complete recovery and that, in 50 per cent. of the cases at least, the paralysis in time subsides to practical recovery.